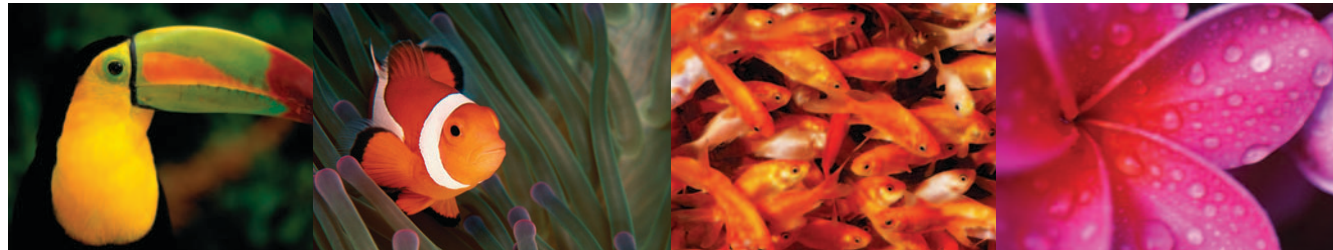


SAMSUNG



COLOR LASER MFP User's Guide
CLX-216x Series

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Safety and Regulatory Information

Important Precautions and Safety Information

When using this machine, these basic safety precautions should always be followed to reduce risk of fire, electric shock, and injury to people:

- 1 Read and understand all instructions.
- 2 Use common sense whenever operating electrical appliances.
- 3 Follow all warnings and instructions marked on the machine and in the literature accompanying the machine.
- 4 If an operating instruction appears to conflict with safety information, heed the safety information. You may have misunderstood the operating instruction. If you cannot resolve the conflict, contact your sales or service representative for assistance.
- 5 Unplug the machine from the AC wall socket before cleaning. Do not use liquid or aerosol cleaners. Use only a damp cloth for cleaning.
- 6 Do not place the machine on an unstable cart, stand or table. It may fall, causing serious damage.
- 7 Your machine should never be placed on, near or over a radiator, heater, air conditioner or ventilation duct.
- 8 Do not allow anything to rest on the power cable. Do not locate your machine where the cords will be abused by persons walking on them.
- 9 Do not overload wall outlets and extension cords. This can diminish performance, and may result in the risk of fire or electric shock.
- 10 Do not allow pets to chew on the AC power or PC interface cords.
- 11 Never push objects of any kind into the machine through case or cabinet openings. They may touch dangerous voltage points, creating a risk of fire or shock. Never spill liquid of any kind onto or into the machine.
- 12 To reduce the risk of electric shock, do not disassemble the machine. Take it to a qualified service technician when repair work is required. Opening or removing covers may expose you to dangerous voltages or other risks. Incorrect reassembly could cause electric shock when the unit is subsequently used.
- 13 Unplug the machine from the PC and AC wall outlet, and refer servicing to qualified service personnel under the following conditions:
 - When any part of the power cord, plug, or connecting cable is damaged or frayed.
 - If liquid has been spilled into the machine.
 - If the machine has been exposed to rain or water.
 - If the machine does not operate properly after instructions have been followed.
 - If the machine has been dropped, or the cabinet appears damaged.
 - If the machine exhibits a sudden and distinct change in performance.
- 14 Adjust only those controls covered by the operating instructions. Improper adjustment of other controls may result in damage, and may require extensive work by a qualified service technician to restore the machine to normal operation.
- 15 Avoid using this machine during a lightning storm. There may be a remote risk of electric shock from lightning. If possible, unplug the AC power for the duration of the lightning storm.

- 16 If you continuously print multiple pages, the surface of the output tray may become hot. Be careful not to touch the surface, and keep children away from the surface.
- 17 The Power cord supplied with your machine should be used for safe operation. If you are using a cord which is longer than 2 m with 110 V machine, then it should be 16 AWG* or bigger.
- 18 SAVE THESE INSTRUCTIONS.

Environmental and Safety Consideration

Laser Safety Statement

The printer is certified in the U.S. to conform to the requirements of DHHS 21 CFR, chapter 1 Subchapter J for Class I(1) laser products, and elsewhere, is certified as a Class I laser product conforming to the requirements of IEC 825.

Class I laser products are not considered to be hazardous. The laser system and printer are designed so there is never any human access to laser radiation above a Class I level during normal operation, user maintenance, or prescribed service condition.

Warning

Never operate or service the printer with the protective cover removed from Laser/Scanner assembly. The reflected beam, although invisible, can damage your eyes.

When using this product, these basic safety precautions should always be followed to reduce risk of fire, electric shock, and injury to persons:



* AWG: American Wire Gauge

Ozone Safety



During normal operation, this machine produces ozone. The ozone produced does not present a hazard to the operator. However, it is advisable that the machine be operated in a well ventilated area.

If you need additional information about ozone, please contact your nearest Samsung dealer.

Power Saver

This printer contains advanced energy conservation technology that reduces power consumption when it is not in active use.

When the printer does not receive data for an extended period of time, power consumption is automatically lowered.

Recycling



Please recycle or dispose of packaging materials for this product in an environmentally responsible manner.

Correct Disposal of This Product (Waste Electrical & Electronic Equipment)

(Applicable in the European Union and other European countries with separate collection systems)



This marking shown on the product or its literature, indicates that it should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal.

Radio Frequency Emissions

FCC Regulations

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.

This device has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution:

Changes or modifications not expressly approved by the manufacturer responsible for compliance could void the user's authority to operate the equipment.

Canadian Radio Interference Regulations

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the interference-causing equipment standard entitled "Digital Apparatus", ICES-003 of the Industry and Science Canada.

Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Classe B prescrites dans la norme sur le matériel brouilleur: "Appareils Numériques", ICES-003 édictée par l'Industrie et Sciences Canada.

Declaration of Conformity (European Countries)

Approvals and Certifications



The CE marking applied to this product symbolises Samsung Electronics Co., Ltd. Declaration of Conformity with the following applicable 93/68/EEC Directives of the European Union as of the dates indicated:

January 1, 1995: Council Directive 73/23/EEC Approximation of the laws of the member states related to low voltage equipment.

January 1, 1996: Council Directive 89/336/EEC (92/31/EEC), approximation of the laws of the Member States related to electromagnetic compatibility.

March 9, 1999: Council Directive 1999/5/EC on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity.

A full declaration, defining the relevant Directives and referenced standards can be obtained from your Samsung Electronics Co., Ltd. representative.

Replacing the Fitted Plug (for UK Only)

Important

The mains lead for this machine is fitted with a standard (BS 1363) 13 amp plug and has a 13 amp fuse. When you change or examine the fuse, you must re-fit the correct 13 amp fuse. You then need to replace the fuse cover. If you have lost the fuse cover, do not use the plug until you have another fuse cover.

Please contact the people from you purchased the machine.

The 13 amp plug is the most widely used type in the UK and should be suitable. However, some buildings (mainly old ones) do not have normal 13 amp plug sockets. You need to buy a suitable plug adaptor. Do not remove the moulded plug.

Warning

If you cut off the moulded plug, get rid of it straight away.

You cannot rewire the plug and you may receive an electric shock if you plug it into a socket.

Important warning: You must earth this machine.

The wires in the mains lead have the following color code:

- Green and Yellow: Earth
- Blue: Neutral
- Brown: Live

If the wires in the mains lead do not match the colors marked in your plug, do the following:

You must connect the green and yellow wire to the pin marked by the letter "E" or by the safety 'Earth symbol' or colored green and yellow or green.

You must connect the blue wire to the pin which is marked with the letter "N" or colored black.

You must connect the brown wire to the pin which is marked with the letter "L" or colored red.

You must have a 13 amp fuse in the plug, adaptor, or at the distribution board.



EU Declaration of Conformity

We, Samsung Electronics Co., Ltd.

- of Samsung Electronics Co., Ltd.
#259, Gongdan-dong, Gumi-si, Gyeongbuk, Korea, [730-030]
- of Samsung Electronics(Shandong) Digital Printing Co., Ltd.
#264209, Samsung Road, Weihai Hi-Tech IDZ, Shandong Province, China

declare under our sole responsibility that the product

Printer
model "CLX-2160N, CLX-2160"

to which this declaration relates is in conformity with

Low Voltage Directive 2006/95/EC
EMC Directive 89/336/EEC , 92/31/EEC

By application of the following standards,

LVD : EN 60950-1:2001+A11	EN 60825-1:1993+A1:2002
EMC : EN 55022:1998+A1:2000+A2:2003	EN 55024:1998+A1:2001+A2:2003
EN61000-3-2:2000	EN61000-3-3:1995+A1:2001

(Manufacturer)

Samsung Electronics Co., Ltd. #259,
Gongdan-Dong, Gumi-Si
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2007-03-21

(place and date of issue)

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2007-03-21

(place and date of issue)

Yong-Sang Park / Manager

(name and signature of authorized person)

1 Introduction

Thank you for purchasing this **Samsung** multifunctional product. Your machine provides printing, copying, scanning functions.

This chapter includes:

- **Special features**
- **Machine overview**
- **Finding more information**
- **Selecting a location**
- **Printing a demo page**
- **Altitude adjustment**

Special features

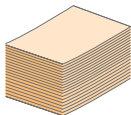
Your new machine is equipped with special features.

Print with excellent quality and speed



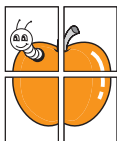
- You can print in full range of colors using cyan, magenta, yellow, and black.
- You can print up to 2400 x 600 dpi (effective output). For details, see the **Software Section**.
- In Black and White mode, your machine prints A4-sized paper at up to 16 ppm^a and letter-sized paper at up to 17 ppm. In Color mode, your machine prints A4-sized or letter sized paper at up to 4 ppm.

Handle paper flexibly



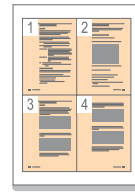
- The **manual feeder** supports letterhead, envelopes, labels, transparencies, custom-sized media, postcards, and heavy paper. The **manual feeder** holds up 1 sheet of paper.
- The **150-sheet tray** support plain paper in various sizes.

Create professional documents



- Print **Watermarks**. You can customize your documents with words, such as "Confidential." See the **Software Section**.
- Print **Posters**. The text and pictures of each page of your document are magnified and printed across the sheet of paper and can then be taped together to form a poster. See the **Software Section**.

Save time and money



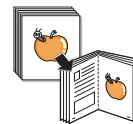
- You can print multiple pages on one single sheet of paper to save paper.
- You can use preprinted forms and letterhead with plain paper. See the **Software Section**.
- This machine automatically **conserves electricity** by substantially reducing power consumption when not in use.

Print in various environments



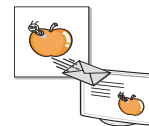
- You can print with **Windows 98/Me/2000** and **Windows XP/2003/Vista** as well as **Linux** and **Macintosh** systems.
- Your machine is equipped with a **USB** interface and a **network** interface (CLX-2160N only).

Copy originals in several formats



- Your machine can print multiple image copies from the original document on a single page.
- There are special functions to erase catalog and newspaper background.
- The print quality and image size may be adjusted and enhance at the same time.

Scan the originals and send it right away



- Scan in color and use the precise compressions of JPEG, TIFF and PDF formats.
- Quickly scan and send files to multiple destinations using Networks scanning (CLX-2160N only).

Machine features

The table below lists a general overview of features supported by your machine.

(I: Installed, O: Option, NA: Not Available)

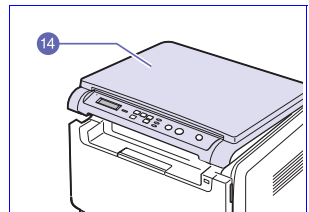
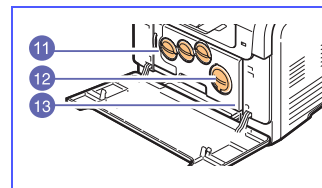
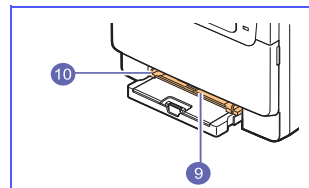
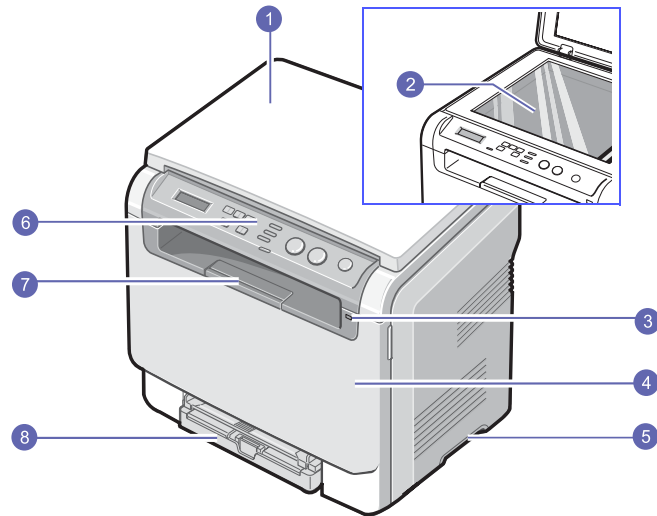
Features	CLX-2160	CLX-2160N
USB 2.0	I	I
USB Memory	I	I
PictBridge	I	I
Network Interface (Ethernet 10/100 Base TX)	NA	I

a. pages per minute

Machine overview

These are the main components of your machine:

Front view



* The figure above shows an CLX-2160N with all available accessories.

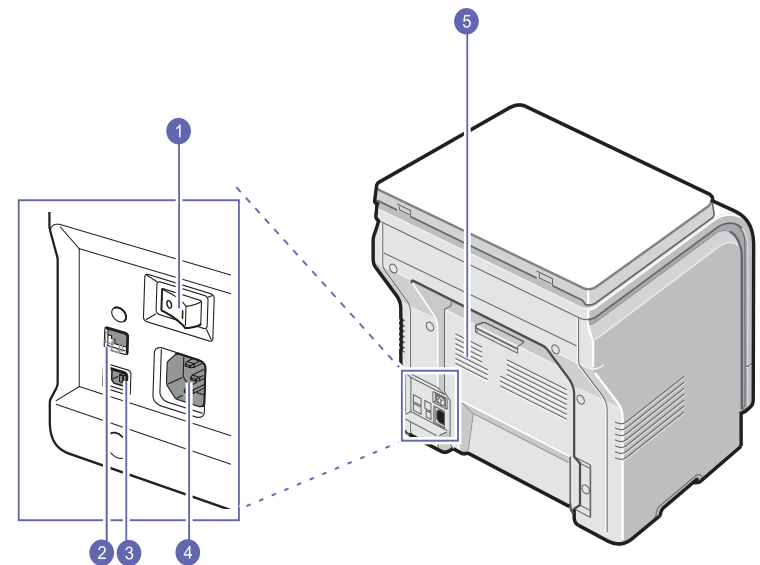
1	scanner lid	8	tray
2	scanner glass	9	manual feeder
3	USB memory port	10	manual feeder paper width guides
4	front cover	11	waste toner container
5	handle	12	toner cartridges
6	control panel	13	imaging unit
7	output support	14	scan unit



Note

The surface of the output tray may become hot if you print a large number of pages at once. Please make sure that you don't touch the surface, and prevent children from approaching it.

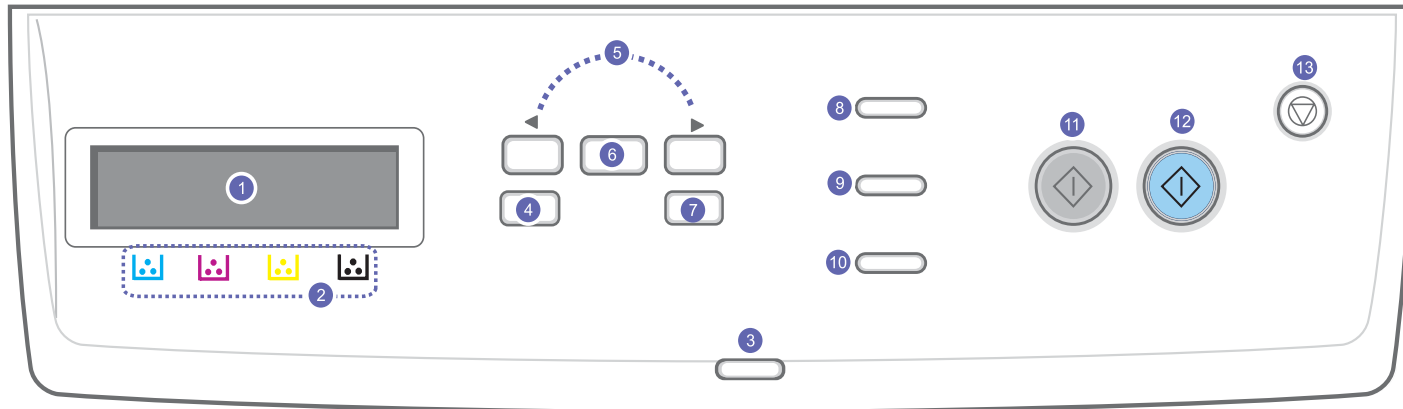
Rear view



* The figure above shows an CLX-2160N with all available accessories.

1	power switch	4	power receptacle
2	network port	5	rear cover
3	USB port		

Control panel overview



1	Display: Shows the current status and prompts during an operation.	8	ID Copy: You can copy both sides of the ID Card like a driver's license to a single side of paper. See page 6.3.
2	Toner colors: The toner colors shown below the LCD display co-works with display messages. See Status LED with the toner cartridge messages on page 1.4.	9	USB Print: Allows you to directly print files stored on a USB flash drive when it is inserted into the USB port in the front of your machine. See page 9.1.
3	Status: Shows the status of your machine. See page 1.4.	10	Scan to: Allows you to access a list of the PC software programs that an image can be scanned to. See page 8.1.
4	Menu: Enters Menu mode and scrolls through the available menus.	11	Black Start: Starts a job in Black and White mode.
5	Scroll buttons: Scroll through the options available in the selected menu, and increase or decrease values.	12	Color Start: Starts a job in Color mode.
6	OK: Confirms the selection on the screen.	13	Stop/Clear: Stops an operation at any time. In Standby mode, clears/cancels the copy options, such as the darkness, the document type setting, the copy size, and the number of copies.
7	Back: Sends you back to the upper menu level.		

Understanding the Status LED

The **Status** LED on the control panel shows the status of your machine. See the table below to know your machine's status.

Status LED

Status		Description
Off		<ul style="list-style-type: none"> The machine is off-line. The machine is in Power Save mode. When data is received, or Black Start or Color Start button was pressed, it switches to on-line automatically.
Green	Blinking	<ul style="list-style-type: none"> When the backlight slowly blinks, the machine is receiving data from the computer. When the backlight fast blinks, the machine is printing data.
	On	The machine is on-line and can be used.
Red	Blinking	<ul style="list-style-type: none"> A minor error occurs and the machine is waiting an error to be cleared. Check the display message, and solve the problem referring to Understanding display messages, see page 11.3. The toner cartridge is low. Order a new toner cartridge, see Ordering supplies on page 12.1. You can temporarily improve print quality by redistributing the toner. See page 10.4.
	On	<ul style="list-style-type: none"> The toner cartridge is totally exhausted. Remove the old toner cartridge and install a new one. See page 10.5. A problem has occurred such as a paper jam, opened cover or no paper in the tray, so that the machine can not continue the job. Check the message on the display, and refer to Understanding display messages on page 11.3 to solve the problem. The toner cartridge is low, empty, or needs to be installed a new one. See Understanding the toner cartridge messages on the display



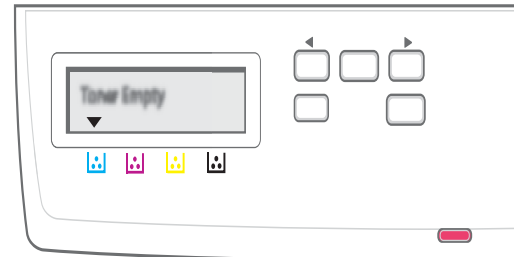
Note

Always check the message on the display to solve the problem. The instruction in Trouble shooting part will guide you to operate the machine properly. See page 11.1

Status LED with the toner cartridge messages

The status of toner cartridges is indicated by the status LED and the LCD display. If the toner cartridge is low or needs to be changed, the status LED turns red and the display shows the message. However the arrow mark (or marks) shows which color toner is of concern, or may be installed with a new cartridge.

Example

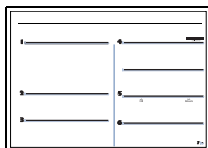


The above example shows the toner cartridges' status of the color shown by arrows. Check the message to find out what the problem is and how to solve it. See page 11.3 to browse the detailed information on error messages.

Finding more information

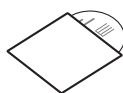
You can find information for setting up and using your machine from the following resources, either printed or onscreen.

Quick Install Guide



Provides information on setting up your machine and, therefore, be sure to follow the instructions in the guide to get the machine ready.

Online User's Guide



Provides you with step-by-step instructions for using your machine's full features, and contains information for maintaining your machine, troubleshooting, and installing accessories.

This user's guide also contains the **Software Section** providing you with information on how to print documents with your machine on various operating systems, and how to use the supplied software utilities.



Note

You can access the user's guides in other languages from the **Manual** folder on the Printer software CD.

Network Printer User's Guide



If your machine is not equipped with a network interface, this CD is not provided. Contained on the network utilities CD, provides you with information on setting up and connecting your machine to a network.

Printer Driver Help



Provides you with help information on printer driver properties and instructions for setting up the properties for printing. To access a printer driver help screen, click **Help** from the printer properties dialog box.

Website

If you have Internet access, you can get help, support, printer drivers, manuals, and order information from the **Samsung** website, www.samsungprinter.com.

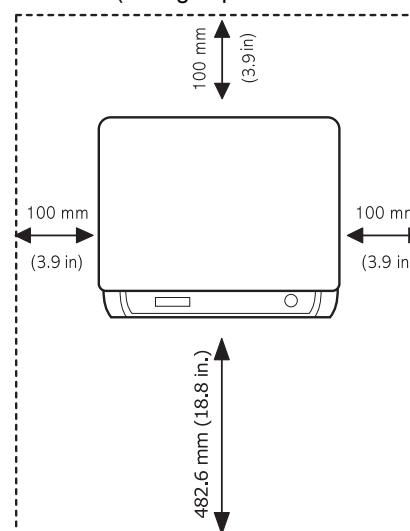
Selecting a location

Select a level, stable place with adequate space for air circulation. Allow extra space for opening covers and trays.

The area should be well-ventilated and away from direct sunlight or sources of heat, cold, and humidity. Do not set the machine close to the edge of your desk or table.

Clearance space

- **Front:** 482.6 mm (enough space so that the paper tray can be removed)
- **Back:** 100 mm (enough space for ventilation)
- **Right:** 100 mm (enough space for ventilation)
- **Left:** 100 mm (enough space for ventilation)

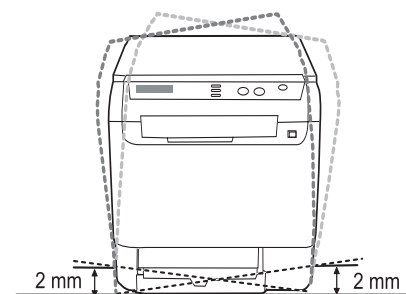


Note



When you move the printer, do not tilt or turn it upside down. Or the inside of the printer may be contaminated by toner, which can cause damage to the printer or bad printing quality.

Place the machine on a flat and stable surface for not letting it lean more than 2 mm (0.08 inches). Otherwise, it may affect the printing quality.



Printing a demo page

Print a demo page to make sure that the machine is operating correctly.

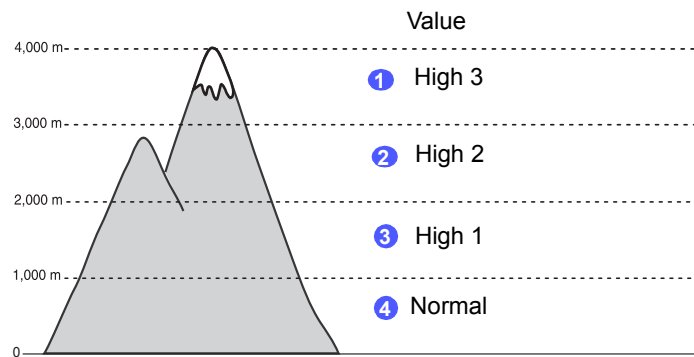
To print a demo page:

In ready mode, press and hold the **OK** button for about 2 seconds.

Altitude adjustment

The print quality is affected by atmospheric pressure, which is determined by the height of the machine above sea level. The following information will guide you on how to set your machine to the best print quality or best quality of print.

Before you set the altitude value, find the altitude where you are using the machine.



- 1 Ensure that you have installed the printer driver with the provided Printer Software CD.
- 2 Double-click the **Smart Panel** icon on the Windows task bar (or Notification Area in Linux). You can also click **Smart Panel** on the status bar in Mac OS X.
- 3 Click **Printer Setting**.
- 4 Click **Settings > Altitude Adjustment**. Select the appropriate value from the dropdown list, and then click **Apply**.



Note

If your machine is connected to a network, **SyncThru Web Service** screen appears automatically. Click **Machine Settings > Setup** (or **Machine Setup**) > **Altitude Adj.** Select the appropriate altitude value, and then click **Apply**.

2 System setup

This chapter gives you an overview of menus available on your machine and step-by-step instructions for setting up the machine's systems.

This chapter includes:

- **Menu overview**
- **Changing the display language**
- **Using the power save mode**
- **Auto continue**

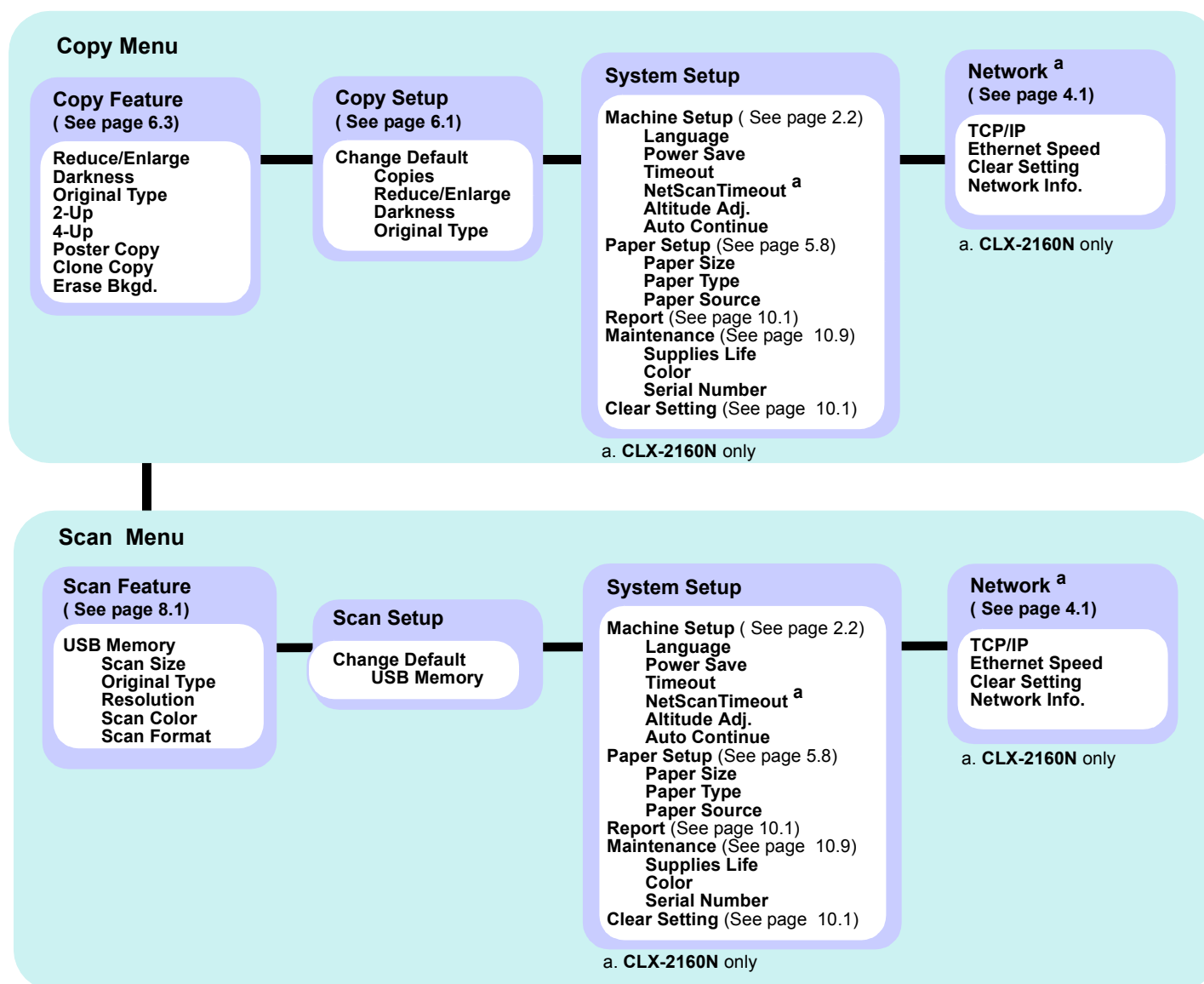
Menu overview

The control panel provides access to various menus to set up the machine or use the machine's functions. These menus can be accessed by pressing **Menu**. Refer to the following diagram. Menus available in Copy or Scan mode vary.



Note

Some menus may not appear in the display depending on your country. If so, it is not applicable to your machine.



Changing the display language

To change the language that appears on the control panel, follow these steps:

- 1 Press **Menu** until **Copy Menu** appears on the bottom line of the display and press **OK**.
- 2 Press the **Scroll** buttons until **System Setup** appears and press **OK**.
- 3 Press the **Scroll** buttons until **Machine Setup** appears and press **OK**.
- 4 Press the **Scroll** buttons until **Language** appears and press **OK**.
- 5 Press the **Scroll** buttons until the language you want appears and press **OK**.
- 6 Press **Stop/Clear** to return to Standby mode.

Using the power save mode

Power Save mode allows your machine to reduce power consumption when it is not in actual use. You can turn this mode on and select a length of time for which the machine waits after a job is printed before it switches to a reduced power state.

- 1 Press **Menu** until **Copy Menu** appears on the bottom line of the display and press **OK**.
- 2 Press the **Scroll** buttons until **System Setup** appears and press **OK**.
- 3 Press the **Scroll** buttons until **Machine Setup** appears and press **OK**.
- 4 Press the **Scroll** buttons until **Power Save** appears and press **OK**.
- 5 Press the **Scroll** buttons until the time setting you want appears and press **OK**.
- 6 Press **Stop/Clear** to return to Standby mode.

Auto continue

This is the option to set the machine to continue printing or not, in case the paper size you have set and the paper within the tray mismatches.

- 1 Press **Menu** until **Copy Menu** appears on the bottom line of the display and press **OK**.
- 2 Press **Scroll** buttons until **System Setup** appears and press **OK**.
- 3 Press **Scroll** buttons until **Machine Setup** appears and press **OK**.
- 4 Press the **Scroll** buttons until **Auto Continue** appears and press **OK**.
- 5 Press the **Scroll** buttons until the binding option you want appears.
 - **On**: Automatically prints after set time passes, when the paper size mismatches the tray paper size.
 - **Off**: Waits until you press **Black Start** or **Color Start** on the control panel, when the paper size mismatches the tray paper size.
- 6 Press **OK** to save your selection.
- 7 Press **Stop/Clear** to return to Standby mode.

3 Software overview

This chapter gives you an overview of the software that comes with your machine. Further details about installing and using the software are explained in the **Software Section**.

This chapter includes:

- **Supplied software**
- **Printer driver features**
- **System requirements**

Supplied software

You must install the printer and scanner software using the supplied CDs after you have set up your machine and connected it to your computer.

Each CD provides you with the following software:

CD	Contents	
Printer software CD	Windows	<ul style="list-style-type: none"> • Printer driver: Use this driver to take full advantage of your printer's features. • Scanner driver: TWAIN and Windows Image Acquisition (WIA) drivers are available for scanning documents on your machine. • Smart Panel: This program allows you to monitor the machine's status and alerts you when an error occurs during printing. • SmarThru^a: This is the accompanying Windows-based software for your multifunctional machine. • Network Scan (CLX-2160N only): This program allows you to scan a document on your machine and save it to a network-connected computer. • User's Guide in PDF
	Linux	<ul style="list-style-type: none"> • Printer driver: Use this driver to run your machine from a Linux computer and print documents. • SANE: Use this driver to scan documents. • Smart Panel: This program allows you to monitor the machine's status and alerts you when an error occurs during printing.

CD	Contents	
Printer software CD (continued)	Macintosh	<ul style="list-style-type: none"> • Printer driver: Use this driver to run your machine from a Macintosh. • Scanner driver: TWAIN driver is available for scanning documents on your machine. • Smart Panel: This program allows you to monitor the machine's status and alerts you when an error occurs during printing.
Network utilities CD (CLX-2160N only)	Windows	<ul style="list-style-type: none"> • SyncThru™ Web Admin Service: Use this web-based program to remotely manage, monitor, and troubleshoot network printers. • Set IP: Use this program to set your machine's TCP/IP addresses. • Network Printer User's Guide in PDF

a. Allows you to edit a scanned image in many ways using a powerful image editor and to send the image by email. You can also open another image editor program, like Adobe Photoshop, from SmarThru. For details, please refer to the onscreen help supplied on the SmarThru program.

Printer driver features

Your printer drivers support the following standard features:

- Paper orientation, size, source and media type selection
- Number of copies

In addition, you can use various special printing features. The following table shows a general overview of features supported by your printer drivers:

Feature	Printer Driver		
	Windows	Macintosh	Linux
Print quality option	○	○	○
Multiple pages per sheet (N-up)	○	○	○ (2, 4)
Poster printing	○	X	X
Booklet Printing	○	X	X
Fit to page printing	○	○ (Mac 10.4 only)	X
Scale printing	○	○	X
Different source for first page	○	○	X
Watermark	○	X	X
Overlay	○	X	X

System requirements

Before you begin, ensure that your system meets the following requirements:

Windows

Item	Requirements	Recommended	
Operating system	Windows 98/Me/2000/XP/2003/Vista		
CPU	Windows 98/Me/2000	Pentium II 400 MHz or higher	Pentium III 933 MHz
	Windows XP/2003/ Vista	Pentium III 933 MHz or higher	Pentium IV 1 GHz
RAM	Windows 98/Me/2000	64 MB or more	128 MB
	Windows XP/2003	128 MB or more	256 MB
	Windows Vista	512 MB or more	1 GB
Free disk space	Windows 98/Me/2000	300 MB or more	1 GB
	Windows XP/2003	1 GB or more	5 GB
	Windows Vista	15 GB or more	15 GB
Internet Explorer	Windows 98/Me/2000/ XP/2003	5.0 or higher	
	Windows Vista	7.0 or higher	



Note

For Windows 2000/2003/XP/Vista, users who have an administrator right can install the software.

Linux

Item	Requirements
Operating system	<ul style="list-style-type: none"> • RedHat 8.0 ~ 9.0 • Fedora Core 1, 2, 3, 4 • Mandrake 9.2 ~ 10.1 • SuSE 8.2 ~ 9.2
CPU	Pentium IV 1 GHz or higher
RAM	256 MB or higher
Free disk page	1 GB or higher
Software	<ul style="list-style-type: none"> • Linux Kernel 2.4 or higher • Glibc 2.2 or higher • CUPS • SANE(for MFP device only)



Note

- It's necessary to claim swap partition of 300 MB or larger for working with large scanned images.
- The Linux scanner driver supports the optical resolution at maximum.

Macintosh

Item	Requirements
Operating system	Macintosh 10.3 ~ 10.4
CPU	Intel processor PowerPC G4/G5
RAM	512 MB for an Intel-based Mac, 128 MB for a Power-PC based Mac
Free disk space	1 GB
Connection	USB interface, Network interface (CLX-2160 only)

4 Network setup (CLX-2160N only)

This chapter gives you step-by-step instructions for setting up your machine for network connections.

This chapter includes:

- **Introduction**
- **Supported operating systems**
- **Configuring TCP/IP**
- **Setting ethernet speed**
- **Restoring the network configuration**
- **Printing a network configuration page**

Introduction

Once you have connected your machine to a network with an RJ-45 Ethernet cable, you can share the machine with other network users.

You need to set up the network protocols on the machine to use it as your network printer. Protocols can be set up by the following two methods:

Via network administration programs

You can configure your machine's print server settings and manage the machine via the following programs that came with your machine:

- **SyncThru™ Web Admin Service:** A web-based printer management solution for network administrators. **SyncThru™ Web Admin Service** provides you with an efficient way of managing network devices and lets you remotely monitor and troubleshoot network printers from any site with corporate intranet access.
- **SyncThru™ Web Service:** A web server embedded to your network print server, which allows you to:
 - Configure the network parameters necessary for the machine to connect to various network environments.
 - Customize printer, copy, and fax settings.
- **SetIP:** A utility program allowing you to select a network interface and manually configure the addresses for use with the TCP/IP protocol.

For further details, refer to the user's guide on the network utilities CD that came with your machine.

Via the control panel

You can set up the following basic network parameters through the machine's control panel:

- Configure TCP/IP
- Configure Ethernet Speed

Supported operating systems

The following table shows the network environments supported by the machine:

Item	Requirements
Network interface	<ul style="list-style-type: none">• Ethernet 10/100 Base-TX
Network operating system	<ul style="list-style-type: none">• Windows 98/Me/2000/XP/2003/Vista• Various Linux OS• Macintosh OS 10.3 ~ 10.4
Network protocols	<ul style="list-style-type: none">• TCP/IP• IPP, SNMP
Dynamic addressing server	<ul style="list-style-type: none">• DHCP, BOOTP

- TCP/IP: Transmission Control Protocol/Internet Protocol
- IPP: Internet Printing Protocol
- SNMP: Simple Network Management Protocol
- DHCP: Dynamic Host Configuration Protocol
- BOOTP: Bootstrap Protocol

Configuring TCP/IP

Your machine can be set up with a variety of TCP/IP network information, such as an IP address, a subnet mask, a gateway, and DNS addresses. There are several ways in which your machine can be assigned a TCP/IP address, depending on your network.

- **Static addressing:** A TCP/IP address is assigned manually by the system administrator.
- **Dynamic addressing via BOOTP/DHCP:** A TCP/IP address is assigned automatically by the server.



Note

Before configuring TCP/IP, you need to set the network protocol to TCP/IP.

Static addressing

To enter a TCP/IP address from your machine's control panel, take the following steps:

- 1 Press **Menu** until **Copy Menu** appears on the bottom line of the display and press **OK**.
- 2 Press the **Scroll** buttons until **Network** appears and press **OK**.
- 3 Press **OK** when **TCP/IP** appears.
- 4 Press the **Scroll** buttons until **Static** appears and press **OK**.
- 5 Press **OK** when **IP Address** appears.

- 6 Set the first byte between 0 and 255 using the **Scroll** buttons and press **OK** to move to the next byte.
Repeat this to complete the address from the 1st byte to the 4th byte.
- 7 When you have finished, press **OK**.
- 8 Repeat steps 5 and 6 to configure the other TCP/IP parameters: subnet mask and gateway address.
- 9 Press the **Scroll** buttons until **Static** appears and press **OK**.
- 10 Press the **Scroll** buttons until **Primary DNS** appears and press **OK**.
- 11 Enter each byte of the address and press **OK**.
- 12 Press the **Scroll** buttons until **Secondary DNS** appears and press **OK**.
- 13 Enter each byte of the address and press **OK**.
- 14 Press **Stop/Clear** to return to Standby mode.

Dynamic addressing (BOOTP/DHCP)

To have a TCP/IP address assigned automatically by the server, take the following steps:

- 1 Press **Menu** until **Copy Menu** appears on the bottom line of the display and press **OK**.
- 2 Press the **Scroll** buttons until **Network** appears and press **OK**.
- 3 Press **OK** when **TCP/IP** appears.
- 4 Press the **Scroll** buttons until **DHCP** or **BOOTP** appears and press **OK**.
- 5 Press **Stop/Clear** to return to Standby mode.

Setting ethernet speed

You can select the communication speed for Ethernet connections.

- 1 Press **Menu** until **Copy Menu** appears on the bottom line of the display and press **OK**.
- 2 Press the **Scroll** buttons until **Network** appears and press **OK**.
- 3 Press the **Scroll** buttons until **Ethernet Speed** appears and press **OK**.
- 4 Press the **Scroll** buttons until the speed you want appears and press **OK**.
- 5 Press **Stop/Clear** to return to Standby mode.

Restoring the network configuration

You can return the network configuration to its default settings.

- 1 Press **Menu** until **Copy Menu** appears on the bottom line of the display and press **OK**.
- 2 Press the **Scroll** buttons until **Network** appears and press **OK**.
- 3 Press the **Scroll** buttons until **Clear Setting** appears and press **OK**.
- 4 Press **OK** when **Yes** appears to restore the network configuration.
- 5 Power the machine off and back on.

Printing a network configuration page

The Network Configuration page shows how the network interface card on your machine is configured.

- 1 Press **Menu** until **Copy Menu** appears on the bottom line of the display and press **OK**.
- 2 Press the **Scroll** buttons until **Network** appears and press **OK**.
- 3 Press the **Scroll** buttons until **Network Info.** appears and press **OK**.
- 4 Press **OK** when **Yes** appears.

The Network Configuration page prints out.

5 Selecting and loading print media

This chapter introduces you to how select and load print media for your machine.

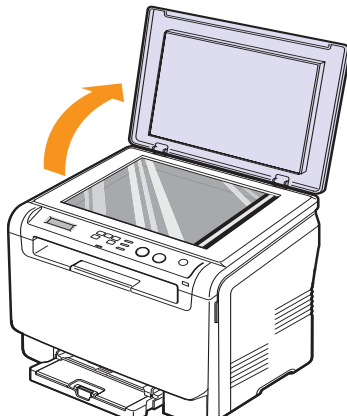
This chapter includes:

- **Loading originals**
- **Selecting print media**
- **Loading paper**
- **Setting the paper size and type**

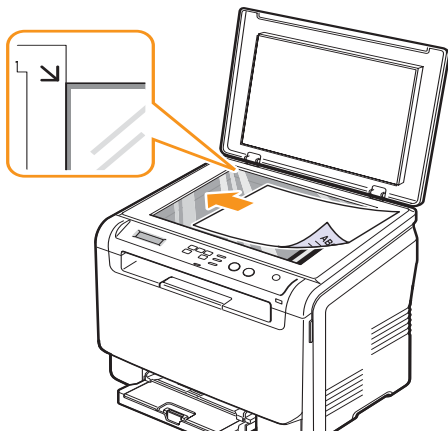
Loading originals

You can use the scanner glass to load an original for copying, scanning.

- 1 Lift and open the scanner lid.



- 2 Place the original **face down** on the scanner glass and align it with the registration guide at the top left corner of the glass.



- 3 Close the scanner lid. Be careful not to move the document.

Caution



When you close the scanner lid after placing the document, be careful your fingers not to be caught between the scanner glass and the lid. Your machine may have a heavy lid (or cover) for optimal pressure on the document for the best scanning.



Note

- Leaving the **scanner lid** open while copying may affect copy quality and toner consumption.
- Dust on the scanner glass may cause black spots on the printout. Always keep it clean.
- If you are copying a page from a book or magazine, lift the scanner lid until its hinges are caught by the stopper and then close the lid. If the book or magazine is thicker than 30 mm, start copying with the lid open.

Selecting print media

You can print on a variety of print media, such as plain paper, envelopes, labels, and transparencies. Always use print media that meet the guidelines for use with your machine. Print media that does not meet the guidelines outlined in this user's guide may cause the following problems:

- Poor print quality
- Increased paper jams
- Premature wear on the machine.

Properties, such as weight, composition, grain, and moisture content, are important factors that affect the machine's performance and the output quality. When you choose print materials, consider the following:

- The type, size and weight of the print media for your machine are described later in this section.
- Desired outcome: The print media you choose should be appropriate for your project.
- Brightness: Some print media are whiter than others and produce sharper, more vibrant images.
- Surface smoothness: The smoothness of the print media affects how crisp the printing looks on the paper.



Note

- Some print media may meet all of the guidelines in this section and still not produce satisfactory results. This may be the result of improper handling, unacceptable temperature and humidity levels, or other variables over which Samsung has no control.
- Before purchasing large quantities of print media, ensure that it meets the requirements specified in this user's guide.



Caution

Using print media that does not meet these specifications may cause problems, requiring repairs. Such repairs are not covered by Samsung's warranty or service agreements.

Supported print media types and sizes

Type	Size	Dimensions	Weight	Capacity ^a
Plain paper	Letter	216 x 279 mm (8.50 x 11.00 inches)	<ul style="list-style-type: none"> • 60 to 90 g/m² (16 to 24 lb bond) for the paper input tray. • 60 to 105 g/m² (16 to 28 lb bond) for the tray and manual feeder 	<ul style="list-style-type: none"> • 1 sheet for the manual feeder • 150 sheets of 75 g/m² (20 lb bond) paper for the tray
	Legal	216 x 356 mm (8.50 x 14.00 inches)		
	Folio	216 x 330 mm (8.50 x 13.00 inches)		
	Oficio	215 x 343 mm (8.50 x 13.50 inches)		
	A4	210 x 297 mm (8.26 x 11.69 inches)		
	JIS B5	182 x 257 mm (7.16 x 10.11 inches)		
	A5	148 x 210 mm (5.82 x 8.26 inches)		
	Executive	184 x 267 mm (7.25 x 10.50 inches)		
	ISO B5	176 x 250 mm (6.93 x 9.84 inches)		
	A6	105 x 148 mm (4.13 x 5.82 inches)		
Envelope	ISO/Envelope B5	176 x 250 mm (6.93 x 9.84 inches)	75 to 90 g/m ² (20 to 24 lb bond)	1 sheet for the manual feeder or tray
	Envelope Monarch	98 x 191 mm (3.80 x 7.50 inches)		
	Envelope COM-10	105 x 241 mm (4.12 x 9.50 inches)		
	Envelope No.9	98 x 225 mm (3.87 x 8.87 inches)		
	Envelope DL	110 x 220 mm (4.33 x 8.66 inches)		
	Envelope C5	162 x 229 mm (6.37 x 9.01 inches)		
	Envelope C6	114 x 162 mm (4.48 x 6.38 inches)		
	Envelope size 6 3/4	92 x 165 mm (3.62 x 6.50 inches)		
Transparency ^b	Letter, A4	Refer to the Plain paper section	138 to 146 g/m ² (37 to 39 lb bond)	1 sheet for the manual feeder or tray
Labels	Letter, Legal, Folio, Oficio, A4, JIS B5, Executive, A5, A6	Refer to the Plain paper section	120 to 150 g/m ² (32 to 40 lb bond)	1 sheet for the manual feeder or tray
Card stock	Letter, Legal, Folio, Oficio, A4, JIS B5, Executive, A5, A6	Refer to the Plain paper section	105 to 163 g/m ² (28 to 43 lb bond)	1 sheet for the manual feeder or tray
Minimum size (custom)		76 x 127 mm (3.00 x 5.00 inches)	60 to 163 g/m ² (16 to 43 lb bond)	1 sheet for the manual feeder or tray
Maximum size (custom)		216 x 356 mm (8.50 x 14.00 inches)		

a. Maximum capacity may differ depending on media weight, thickness, and environmental conditions.

b. Recommended media: Transparency for a Color Laser Printers produced by HP, Xerox and 3M.

It is not recommended to use paperbacked transparencies such as Xerox 3R91334, which can cause a jam or be scratched.

Media sizes supported in each mode

Mode	Size	Source
Copy mode	Letter, A4, Legal, Oficio, Folio, Executive, JIS B5, A5, A6	<ul style="list-style-type: none"> • Tray • Manual feeder
Print mode	All sizes supported by the machine	<ul style="list-style-type: none"> • Tray • Manual feeder

Guidelines for selecting and storing print media

When selecting or loading paper, envelopes, or other print materials, keep these guidelines in mind:

- Always use print media that conform with the specifications listed on page 5.5.
- Attempting to print on damp, curled, wrinkled, or torn paper can cause paper jams and poor print quality.
- For the best print quality, use only high quality copier grade paper specifically recommended for use in laser printers.
- Avoid using the following media types:
 - Paper with embossed lettering, perforations, or a texture that is too smooth or too rough
 - Erasable bond paper
 - Multi-paged paper
 - Synthetic paper and thermally reactive paper
 - Carbonless paper and Tracing paper.


Use of these types of paper could result in paper jams, chemical smells, and damage to your machine.

- Store print media in its ream wrapper until you are ready to use it. Place cartons on pallets or shelves, not on the floor. Do not place heavy objects on top of the paper, whether it is packaged or unpackaged. Keep it away from moisture or other conditions that can cause it to wrinkle or curl.
- Store unused print media at temperatures between 15° C and 30° C (59° F to 86° F). The relative humidity should be between 10% and 70%.
- Store unused print media in a moisture-proof wrap, such as a plastic container or bag, to prevent dust and moisture from contaminating your paper.
- Load special media types one sheet at a time through the manual feeder to avoid paper jams.

To prevent print media, such as transparencies and label sheets, from sticking together, remove them as they print out.

Guidelines for special print media

Media type	Guidelines
Envelopes	<ul style="list-style-type: none"> • Successful printing on envelopes depends upon the quality of the envelopes. When selecting envelopes, consider the following factors: <ul style="list-style-type: none"> - Weight: The weight of the envelope paper should not exceed 90 g/m² (24 lb) or jamming may occur. - Construction: Prior to printing, envelopes should lie flat with less than 6 mm (0.25 inches) curl, and should not contain air. - Condition: Envelopes should not be wrinkled, nicked, or otherwise damaged. - Temperature: You should use envelopes that are compatible with the heat and pressure of the machine during operation. • Use only well-constructed envelopes with sharp and well creased folds. • Do not use stamped envelopes. • Do not use envelopes with clasps, snaps, windows, coated lining, self-adhesive seals, or other synthetic materials. • Do not use damaged or poorly made envelopes. • Be sure the seam at both ends of the envelope extends all the way to the corner of the envelope. <div style="text-align: center;"> </div> <ul style="list-style-type: none"> • Envelopes with a peel-off adhesive strip or with more than one flap that folds over to seal must use adhesives compatible with the printer's fusing temperature for 0.1 second. Check your machine's specification to view the fusing temperature, see page 13.1. The extra flaps and strips might cause wrinkling, creasing, or jams, and may even damage the fuser. • For the best print quality, position margins no closer than 15 mm (0.6 inches) from the edges of the envelope. • Avoid printing over the area where the envelope's seams meet.

Media type	Guidelines
Transparencies	<ul style="list-style-type: none"> To avoid damaging the machine, use only transparencies designed for use in laser printers. Transparencies used in the printer must be able to withstand the machine's fusing temperature. Check your machine's specification to view the fusing temperature, see page 13.1. Place them on a flat surface after removing them from the machine. Do not leave them in the paper tray for long periods of time. Dust and dirt may accumulate on them, resulting in spotty printing. To avoid smudging caused by fingerprints, handle them carefully. To avoid fading, do not expose printed transparencies to prolonged sunlight. Ensure that transparencies are not wrinkled, curled, or have any torn edges. <p> Caution Recommended media: Transparency for a Color Laser Printers produced by HP, Xerox and 3M. It is not recommended to use paperbacked transparencies such as Xerox 3R91334, which can cause a jam or be scratched.</p>

Media type	Guidelines
Labels	<ul style="list-style-type: none"> To avoid damaging the machine, use only labels designed for use in laser printers. When selecting labels, consider the following factors: <ul style="list-style-type: none"> Adhesives: The adhesive material should be stable at your machine's fusing temperature. Check your machine's specification to view the fusing temperature, see page 13.1. Arrangement: Only use labels with no exposed backing between them. Labels can peel off sheets that have spaces between the labels, causing serious jams. Curl: Prior to printing, labels must lie flat with no more than 13 mm (5 inches) of curl in any direction. Condition: Do not use labels with wrinkles, bubbles, or other indications of separation. Make sure that there is no exposed adhesive material between labels. Exposed areas can cause labels to peel off during printing, which can cause paper jams. Exposed adhesive can also cause damage to machine components. Do not run a sheet of labels through the machine more than once. The adhesive backing is designed for only a single pass through the machine. Do not use labels that are separating from the backing sheet or are wrinkled, bubbled, or otherwise damaged.
Card stock or custom-sized materials	<ul style="list-style-type: none"> Do not print on media smaller than 76 mm (3.00 inches) wide or 127 mm (5.00 inches) long. In the software application, set margins at least 6.4 mm (0.25 inches) away from the edges of the material.
Preprinted paper	<ul style="list-style-type: none"> Letterhead must be printed with heat-resistant ink that will not melt, vaporize, or release hazardous emissions when subjected to the printer's fusing temperature for 0.1 second. Check your machine's specification to view the fusing temperature, see page 13.1. Letterhead ink must be non-flammable and should not adversely affect printer rollers. Forms and letterhead should be sealed in a moisture-proof wrapping to prevent changes during storage. Before you load preprinted paper, such as forms and letterhead, verify that the ink on the paper is dry. During the fusing process, wet ink can come off preprinted paper, reducing print quality.

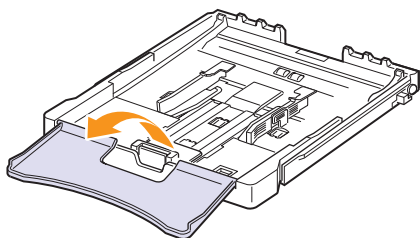
Loading paper

In the tray

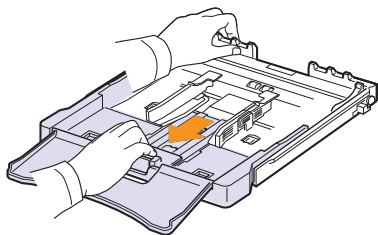
Load the print media you use for the majority of your print jobs in the tray. The tray can hold a maximum of 150 sheets of 75 g/m² (20 lb bond) plain paper.

Loading paper in the tray

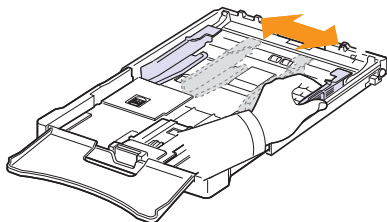
- 1 Pull the tray out of the machine.
- 2 Open the paper cover.



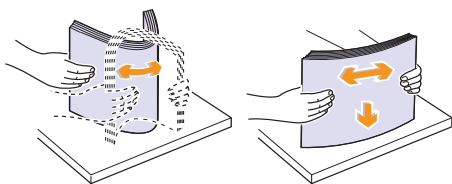
- 3 Adjust the size of tray until it sound click.



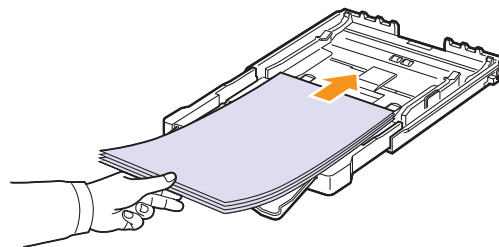
- 4 Enlarge the tray by adjusting the paper width guide.



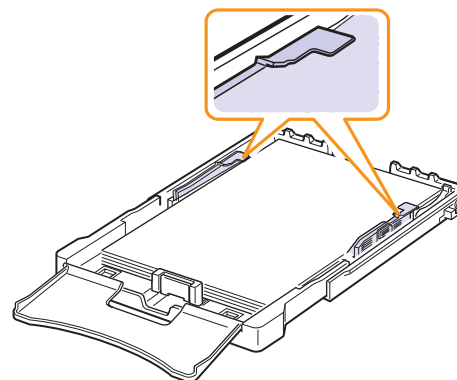
- 5 Flex the paper sheets back and forth to separate pages and then fan them while holding one edge. Tap the edges of the stack on a flat surface to even it up.



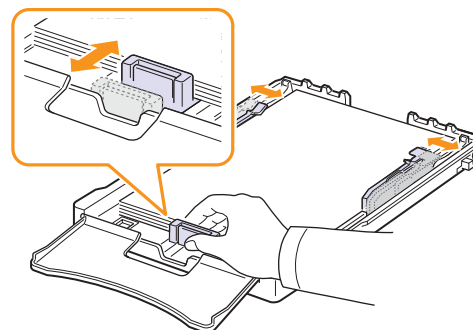
- 6 Load paper with the print side up.



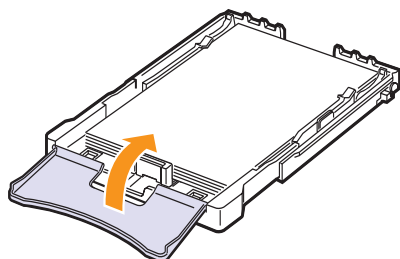
Make sure not to overfill the tray and that all four corners are flat in the tray and under the brackets, as shown below. Overfilling the tray may cause a paper jam.



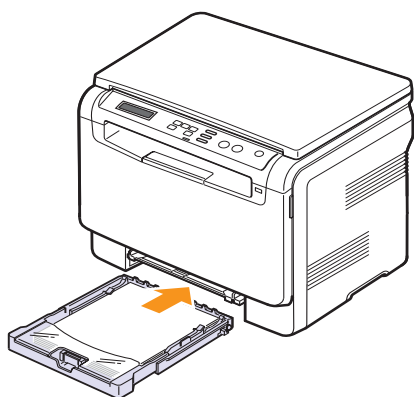
- 7 Squeeze the paper length guide and slide in it until it lightly touches the end of the paper stack.



- 8 Close the paper cover.



- 9 Slide the tray back into the machine.



You can load letterhead with the design side face up. The top edge of the sheet with the logo should go into the machine first.

After loading paper, set the paper type and size for the tray. See page 5.8 for copying and faxing or the **Software Section** for PC-printing.



Note

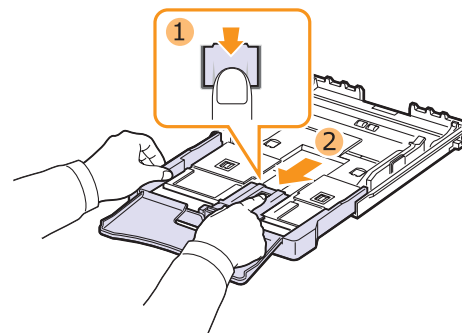
- If there is not enough paper in the tray, load more paper.
- If you experience problems with paper feed, place one sheet at a time in the manual feeder.
- You can load previously printed paper. The printed side should be facing down with an uncurled edge into the machine. If you experience problems with paper feed, turn the paper around. Note that print quality is not guaranteed.

Changing the size of the paper in the tray

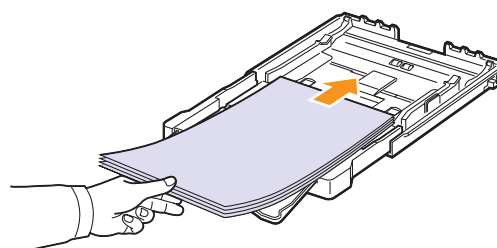
To load longer sizes of paper, such as Legal-sized paper, you need to adjust the paper guides to extend the paper tray.

To change the tray size to other size, you must adjust the paper length guide properly.

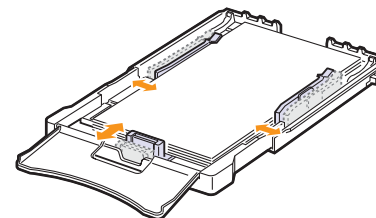
- 1 Pull the tray out of the machine. Open the paper cover and remove paper from the tray if necessary.
- 2 Pressing and unlatching the guide lock in the top of the tray, pull the tray out manually.



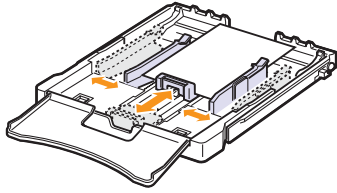
- 3 Load paper into the tray.



- 4 Slide the paper length guide until it lightly touches the end of the paper stack. Squeeze the paper width guide and slide it to the edge of the paper stack without causing it to bend.

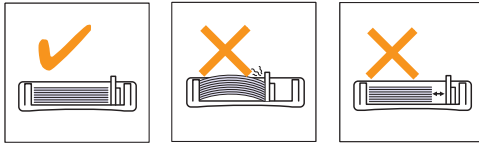


For paper smaller than Letter-sized, return the paper guides to their original positions and adjust the paper length guide and paper width guide.

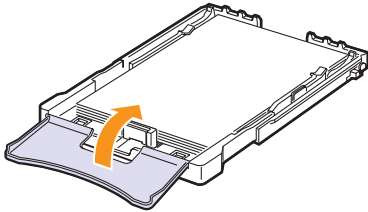


Note

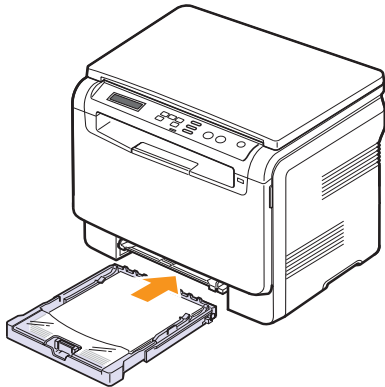
- Do not push the paper width guides far enough to cause the material to warp.
- If you do not correctly adjust the paper width guides, it may cause a paper jams.



- 5 Close the paper cover.



- 6 Slide the tray back into the machine.



In the manual feeder

The manual feeder can hold special sizes and types of print material, such as transparencies, postcards, note cards, labels, and envelopes. It is useful for single page printing on letterhead or colored paper.

Tips on using the manual feeder

- Load only one size of print media at a time in the manual feeder. When you print out many pieces of paper at once, tray use is recommended.
- To prevent paper jams, do not add paper when there is still paper in the manual feeder. This also applies to other types of print media.
- Print media should be loaded face up with the top edge going into the manual feeder first and be placed in the center of the tray.
- Always load only the print media specified in page 5.1 to avoid paper jams and print quality problems.
- Flatten any curl on postcards, envelopes, and labels before loading them into the manual feeder.

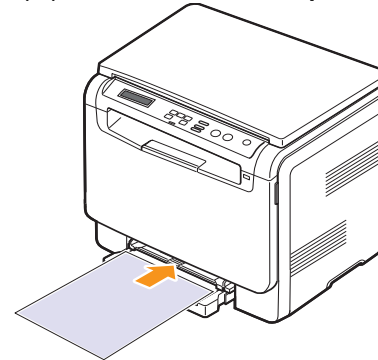
To load paper in the manual feeder:



Caution

When you do the printing job from the manual feeder, clear the paper in the tray away.

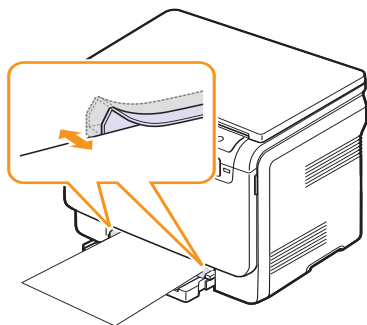
- 1 Load the paper **with the side to be printed on facing up**.



Depending on the media type you are using, keep the following loading guidelines:

- **Envelopes:** Flap side down and with the stamp area on the top left side.
- **Transparencies:** Print side up and the top with the adhesive strip entering the machine first.
- **Labels:** Print side up and top short edge entering the machine first.
- **Preprinted paper:** Design side up with the top edge toward the machine.
- **Card stock:** Print side up and the short edge entering the machine first.
- **Previously printed paper:** Previously printed side down with an uncurled edge toward the machine.

- 2 Squeeze the manual feeder paper width guides and adjust them to the width of the paper. Do not force too much, or the paper will be bent, which will result in a paper jam or skew.



- 3 After loading paper, set the paper type and size for the manual feeder. See page 5.8 for copying the **Software Section** for PC-printing.



Note

The settings made from the printer driver override the settings on the control panel.



Caution

If you want to print several pages with the manual feeder, wait the machine complete the printing one page, then place a paper on the manual feeder. Otherwise it may cause the paper jam.

Setting the paper size and type

After loading paper in the paper tray, you need to set the paper size and type using the control panel buttons. These settings will apply to Copy. For PC-printing, you need to select the paper size and type in the application program you use on your PC.

- 1 Press **Menu** until **Copy Menu** appears on the bottom line of the display and press **OK**.
- 2 Press the **Scroll** buttons until **System Setup** appears and press **OK**.
- 3 Press the **Scroll** buttons until **Paper Setup** appears and press **OK**.
- 4 Press **OK** when **Paper Size** appears.
- 5 Press the **Scroll** buttons until the paper tray you want appears and press **OK**.
- 6 Press the **Scroll** buttons until the paper size you are using appears and press **OK**.
- 7 Press **Back** to return to the upper level.
- 8 Press the **Scroll** buttons until **Paper Type** appears and press **OK**.
- 9 Press the **Scroll** buttons until the paper type you are using appears and press **OK**.
- 10 Press **Stop/Clear** to return to Standby mode.

6 Copying

This chapter gives you step-by-step instructions for copying documents.

This chapter includes:

- **Selecting the paper tray**
- **Copying**
- **Changing the settings for each copy**
- **Changing the default copy settings**
- **Using special copy features**

Selecting the paper tray

After loading the print media for copy output, you must select the paper tray you will use for copy jobs.

- 1 Press **Menu** until **Copy Menu** appears on the bottom line of the display and press **OK**.
- 2 Press **Scroll** buttons until **System Setup** appears and press **OK**.
- 3 Press the **Scroll** buttons until **Paper Setup** appears and press **OK**.
- 4 Press the **Scroll** buttons until **Paper Source** appears and press **OK**.
- 5 Press the **Scroll** buttons until the paper tray you want appears and press **OK**.
- 6 Press **Stop/Clear** to return to Standby mode.

Copying

- 1 Place an original document on the scanner glass.

Customize the copy settings including copy size, darkness, and original type, by using the control panel **Menu** buttons. See 6.1.

If necessary, you can use special copy features, such as Poster copying or 2 Up copying. See 6.3.

- 2 Press **Color Start** to begin color copying.
Or, press **Black Start** to begin black and white copying.



Note

You can cancel the copy job during an operation. Press **Stop/Clear**, and the copying will stop.

Changing the settings for each copy

The buttons on the control panel let you select all basic copy options: darkness, document type and copy size. Set the following options for the current copy job before pressing **Stop/Clear** to make copies.



Note

If you press **Stop/Clear** while setting the copy options, all of the options you have set for the current copy job will be canceled and returned to their default status.

Reduced/Enlarged copy

You can reduce or enlarge the size of a copied image from 50% to 200% when you copy original documents from the scanner lid.

To select from the predefined copy sizes:

- 1 Press **Menu** until **Copy Menu** appears on the bottom line of the display and press **OK**.
- 2 Press **Scroll** buttons until **Copy Feature** appears and press **OK**.
- 3 Press **Scroll** buttons until **Reduce/Enlarge** appears and press **OK**.
- 4 Press the **Scroll** buttons to select the size setting you want and press **OK**.

To fine-tune the size of copies:

- 1 Press **Menu** until **Copy Menu** appears on the bottom line of the display and press **OK**.
- 2 Press **Scroll** buttons until **Copy Feature** appears and press **OK**.
- 3 Press **Scroll** buttons until **Reduce/Enlarge** appears and press **OK**.
- 4 Press the **Scroll** buttons until **Custom** appears and press **OK**.
- 5 Press the **Scroll** buttons to enter the copy size you want. Pressing and holding the button allows you to quickly scroll to the number you want.
- 6 Press **OK** to save the selection.



Note

When you make a reduced copy, black lines may appear at the bottom of your copy.

Darkness

If you have an original document containing faint markings and dark images, you can adjust the brightness to make a copy that is easier to read.

- 1 Press **Menu** until **Copy Menu** appears on the bottom line of the display and press **OK**.
- 2 Press **Scroll** buttons until **Copy Feature** appears and press **OK**.
- 3 Press **Scroll** buttons until **Darkness** appears and press **OK**.
- 4 Press the **Scroll** buttons to select the contrast mode you want.
•**Light**: works well with dark print.

- Normal**: works well with standard typed or printed documents.
- Dark**: works well with light print or faint pencil markings.

- 5 Press **OK** to save the selection.

Original type

The original type setting is used to improve the copy quality by selecting the document type for the current copy job.

- 1 Press **Menu** until **Copy Menu** appears on the bottom line of the display and press **OK**.
- 2 Press **Scroll** buttons until **Copy Feature** appears and press **OK**.
- 3 Press **Scroll** buttons until **Original Type** appears and press **OK**.
- 4 Press the **Scroll** buttons to select the image mode you want.
 - Text**: Use for documents containing mostly text.
 - Text/Photo**: Use for documents with mixed text and photographs.
 - Photo**: Use when the originals are photographs.
- 5 Press **OK** to save the selection.

Changing the default copy settings

The copy options, including darkness, original type, copy size, and number of copies, can be set to those most frequently used. When you copy a document, the default settings are used unless they have been changed by using the corresponding buttons on the control panel.

- 1 Press **Menu** until **Copy Menu** appears on the bottom line of the display and press **OK**.
- 2 Press **Scroll** buttons until **Copy Setup** appears and press **OK**.
- 3 Press **OK** when **Change Default** appears.
- 4 Press the **Scroll** buttons until the setup option you want appears and press **OK**.
- 5 Press the **Scroll** buttons until the setting you want appears and press **OK**.
- 6 Repeat steps 4 through 5, as needed.
- 7 Press **Stop/Clear** to return to Standby mode.



Note

While you are setting copy options, pressing **Stop/Clear** cancels the changed settings and restores the defaults.

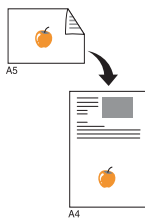
Setting copy timeout

You can set the time the machine waits before it restores the default copy settings, if you do not start copying after changing them on the control panel.

- 1 Press **Menu** until **Copy Menu** appears on the bottom line of the display and press **OK**.
- 2 Press **Scroll** buttons until **System Setup** appears and press **OK**.
- 3 Press **Scroll** buttons until **Machine Setup** appears and press **OK**.
- 4 Press the **Scroll** buttons until **Timeout** appears and press **OK**.
- 5 Press the **Scroll** buttons until the time setting you want appears.

Selecting **Off** means that the machine does not restore the default settings until you press **Black Start** or **Color Start** to begin copying, or **Stop/Clear** to cancel.
- 6 Press **OK** to save your selection.
- 7 Press **Stop/Clear** to return to Standby mode.

ID card copying



Your machine can print 2-sided originals on one sheet of A4-, Letter-, Legal-, Folio-, Oficio-, Executive-, B5-, A5-, or A6-sized paper.

When you copy using this feature, the machine prints one side of the original on the upper half of the paper and the other side on the lower half without reducing the size of the original. This feature is helpful for copying a small-sized item, such as a name card.

This copy feature is available only when you place originals on the scanner glass.

- 1 Press **ID Copy**.
- 2 Place a single original face down on the scanner glass.
For details about loading an original, see page 5.1.
- 3 **Place Front Side and Press[Start]** appears on the display.
- 4 Press **Color Start** or **Black Start**.
Your machine begins scanning the front side and shows **Place Back Side and Press[Start]**.
- 5 Open the scanner lid and turn the original over.



Note

If you press **Stop/Clear** or if no buttons are pressed for approximately 30 seconds, the machine cancels the copy job and returns to Standby mode.

- 6 Press **Color Start** to begin color copying.
Or, press **Black Start** to begin black and white copying.



Note

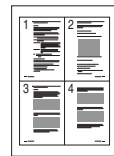
If the original is larger than the printable area, some portions may not be printed.

Using special copy features

2-up or 4-up copying



▲ 2-up copying



▲ 4-up copying

Your machine can print 2 or 4 original images reduced to fit onto one sheet of paper.

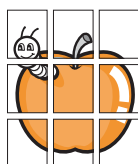
- 1 Place the document to be copied on the scanner glass, and close the scanner lid.
For details about loading an original, see page 5.1.
- 2 Press **Menu** until **Copy Menu** appears on the bottom line of the display and press **OK**.
- 3 Press **Scroll** buttons until **Copy Feature** appears and press **OK**.
- 4 Press the **Scroll** buttons until **2-Up** or **4-Up** appears and press **OK**.
- 5 Press the **Scroll** buttons to select the color mode you want.
There are two types of mode as following:
 - Yes-Color**: Color copy
 - Yes-Mono**: Black and White copy
- 6 Press **OK** to begin copying.
- 7 Your machine begins scanning the front side and will then display **Another Page?**.
If an original is placed on the scanner glass, select **Yes** to add another pages.
- 8 Place the second document to be copied on the scanner glass.
- 9 Press **OK** to begin copying.



Note

2- or 4-up copying reduces your original document by 50%.

Poster copying



Your machine can print an image onto 9 sheets of paper (3x3). You can paste the printed pages together to make one poster-sized document.

This copy feature is available only when you place originals on the scanner glass.

- 1 Place the document to be copied on the scanner glass, and close the scanner lid.

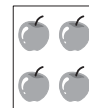
For details about loading an original, see page 5.1.

- 2 Press **Menu** until **Copy Menu** appears on the bottom line of the display and press **OK**.
- 3 Press **Scroll** buttons until **Copy Feature** appears and press **OK**.
- 4 Press the **Scroll** buttons until **Poster Copy** appears and press **OK**.
- 5 Press the **Scroll** buttons to select the color mode you want.
There are two types of mode as following:
 - Yes-Color**: Color copy
 - Yes-Mono**: Black and White copy
- 6 Press **OK** to begin copying.

Your original is divided into 9 portions. Each portion is scanned and printed one by one in the following order:

1	2	3
4	5	6
7	8	9

Clone copying



Your machine can print multiple image copies from the original document on a single page. The number of images is automatically determined by the original image and paper size.

This copy feature is available only when you place originals on the scanner glass.

- 1 Place the document to be copied on the scanner glass, and close the scanner lid.

For details about loading an original, see page 5.1.

- 2 Press **Menu** until **Copy Menu** appears on the bottom line of the display and press **OK**.
- 3 Press **Scroll** buttons until **Copy Feature** appears and press **OK**.
- 4 Press the **Scroll** buttons until **Clone Copy** appears and press **OK**.
- 5 Press the **Scroll** buttons to select the color mode you want.
There are two types of mode as following:
 - Yes-Color**: Color copy
 - Yes-Mono**: Black and White copy
- 6 Press **OK** to begin copying.

Erasing background images

You can set the machine to print an image without its background. This copy feature removes the background color and can be helpful when copying an original containing color in the background, such as a newspaper or a catalog. This copy feature is only for mono copying.

- 1 Place the document to be copied on the scanner glass, and close the scanner lid.
For details about loading an original, see page 5.1.
- 2 Press **Menu** until **Copy Menu** appears on the bottom line of the display and press **OK**.
- 3 Press **Scroll** buttons until **Copy Feature** appears and press **OK**.
- 4 Press the **Scroll** buttons until **Erase Bkgd.** appears and press **OK**.
- 5 Press the **Scroll** buttons to select **On** and press **OK**.
- 6 Press **Stop/Clear** to return to Standby mode.
- 7 Press **Black Start** to begin mono copying.

7 Basic printing

This chapter explains common printing tasks.

Printing a document

Your machine allows you to print from various Windows, Macintosh, or Linux applications. The exact steps for printing a document may vary depending on the application you use.

For details about printing, see the **Software Section**.

Canceling a print job

If the print job is waiting in a print queue or print spooler, such as the printer group in Windows, delete the job as follows:

- 1 Click the Windows **Start** menu.
- 2 For Windows 98/2000/Me, select **Settings** and then **Printers**.
For Windows XP/2003, select **Printers and Faxes**.
For Windows Vista, select **Control Panel > Hardware and Sound > Printers**.
- 3 Double-click the **Samsung CLX-216x Series** icon.
- 4 From the **Document** menu, select **Cancel Printing** (Windows 98/Me) or **Cancel** (Windows 2000/XP/2003/Vista).



Note

You can also access this window by simply double-clicking the printer icon at the bottom right corner of the Windows desktop.

You can also cancel the current job by pressing **Stop/Clear** on the control panel.

8 Scanning

Scanning with your machine lets you turn pictures and text into digital files that can be stored on your computer. Then you can email the files, upload them to your website, or use them to create projects that you can print.

This chapter includes:

- **Scanning basics**
- **Scanning to an application using a local connection**
- **Scanning using a network connection (CLX-2160N only)**
- **Changing the settings for each scan job**
- **Changing the default scan settings**



Note

The maximum resolution that can be achieved depends upon various factors, including computer speed, available disk space, memory, the size of the image being scanned, and bit depth settings. Thus, depending on your system and what you are scanning, you may not be able to scan at certain resolutions, especially using enhanced resolution.

Scanning basics

Your machine offers the following ways to scan an image using a local connection:

- Via one of the preset imaging applications. Scanning an image launches the selected application, enabling you to control the scanning process. See the next section.
- Via the **SmarThru™** program supplied with your machine. Scanning an image launches **SmarThru™** and enables you to control the scanning process. See the **Software Section**.
- Via the Windows Images Acquisition (WIA) driver. See the **Software Section**.
- To a portable USB memory device, if inserted into the USB memory port on your machine. See page 9.2.

Also, you can send scanned images to several destinations using a network connection:

- To your networked computer via the **Network Scan** program. You can scan an image from the machine, if network-connected, to the computer where the **Network Scan** program is running. (CLX-2160N only)

Scanning to an application using a local connection



Note

You can add more TWAIN-compliant software for scanning, such as Adobe Photoshop Deluxe, Microsoft Paint, Email, SmarThru, OCR or Adobe Photoshop, from the **Printer Settings Utility**. See the **Software Section**.

- 1 Make sure that your machine and computer are turned on and properly connected to each other.
- 2 Place a single original face down on the scanner glass.
For details about loading an original, see page 5.1.
- 3 Press **Scan to**.
Ready to Scan appears on the top line of the display.
- 4 Press the **Scroll** buttons until **Scan to Appl.** appears on the bottom line of the display and press **OK**.
- 5 Press the **Scroll** buttons until the application you want to use appears and press **OK**.
- 6 On the selected application, adjust the scan settings and begin scanning.
For details, please refer to the application user's guide.

Scanning using a network connection (CLX-2160N only)

If you have connected your machine to a network and set up network parameters correctly, you can scan and send images over the network.


Preparing for network scanning

Before using your machine's network scanning features, you need to add the machine to the Network Scan program for scanning to a network client.

Adding the machine to the Network Scan program

First, install the **Network Scan** program. See the **Software Section**.

To scan images from your machine to your computer through the network, you need to register the machine as an authorized network scanner in the **Network Scan** program.

- 1 In Windows, select **Start** → **Programs** → **Samsung Network Printer Utilities** → **Network Scan** → **Network Scan**.
The **Samsung Network Scan Manager** window opens.
- 2 Click the **Add Device** button or double-click the **Add Device** icon.
- 3 Click **Next**.
- 4 Select **Browse for a scanner. (recommended)**, or select **Connect to this scanner.** and enter the IP address of your machine.
- 5 Click **Next**.
A list of the scanners on your network appears.
- 6 Select your machine from the list and enter a name, user ID, and PIN (Personal Identification Number) for the machine.
 **Note**
 - For the scanner name, the model name of your machine is automatically entered, but can be changed.
 - You can enter an ID of up to 8 characters. The first character must be a letter.
 - The PIN must be 4 digits.
- 7 Click **Next**.
- 8 Click **Finish**.

Your machine is added to the **Network Scan** program and you can now scan images through the network.



Note

You can change the scanner properties of your machine and the scan settings from the **Samsung Network Scan Manager** window. Click **Properties** and set the options in each tab.

Scanning to a network client

Network Scan allows you to remotely scan an original from your network-connected machine to your computer in JPEG, TIFF, or PDF file format.

Scanning

- 1 Make sure that your machine and the computer are connected to a network and **Network Scan** is running on the computer.
- 2 Place a single original face down on the scanner glass.
For details about loading an original, see page 5.1.
- 3 Press **Scan to**.
- 4 Press the **Scroll** buttons until **Network Scan** appears on the bottom line of the display and press **OK**.
- 5 Select the **Scroll** buttons until the ID you have set in the **Samsung Network Scan Manager** window and press **OK**.
- 6 Enter the PIN you have set in the **Samsung Network Scan Manager** window and press **OK**.
- 7 If the scan destination is your computer folders, press the **Scroll** buttons until **My Documents** appears on the bottom line of the display and press **OK**.



Note

If the scan destination is your computer application, press the **Scroll** buttons until the application you want appears and press **Color Start** or **Black Start**. Scanning is started.

- 8 Press the **Scroll** buttons until the scan setting option you want appears and press **OK**. Or, press **Color Start** or **Black Start** to immediately start scanning using the default settings.
 - **Resolution**: Sets the image resolution.
 - **Scan Color**: Sets the color mode.
 - **Scan Format**: Sets the file format in which the image is to be saved. When you select TIFF or PDF, you can select to scan multiple pages.
- 9 Press the **Scroll** buttons until the desired status appears and press **OK**.
- 10 press **Color Start** or **Black Start** to start scanning. Your machine begins scanning the original to the computer where the program is running.

Setting network scan timeout

If the **Network Scan** program on your computer does not send a refresh request and does not scan a job within a specified timeout period, your machine cancels the scan job. You can change this timeout setting as needed.

- 1 Press **Menu** until **Scan Menu** appears on the bottom line of the display and press **OK**.
- 2 Press the **Scroll** buttons until **System Setup** appears and press **OK**.
- 3 Press **OK** when **Machine Setup** appears.
- 4 Press the **Scroll** buttons until **NetScanTimeout** appears and press **OK**.
- 5 Enter the desired timeout value and press **OK**.
The change will be broadcast over the network and will apply to all clients connected to the network.
- 6 Press **Stop/Clear** to return to Standby mode.

Changing the settings for each scan job

Your machine provides you with the following setting options.

- **Scan Size**: Sets the image size.
- **Original Type**: Sets the original document's type.
- **Resolution**: Sets the image resolution.
- **Scan Color**: Sets the color mode.
- **Scan Format**: Sets the file format in which the image is to be saved. If you select TIFF or PDF, you can select to scan multiple pages.

To customize the settings before starting a scan job:

- 1 Press **Menu** until **Scan Menu** appears on the bottom line of the display and press **OK**.
- 2 Press the **Scroll** buttons until **Scan Feature** appears and press **OK**.
- 3 Press **OK** when **USB Memory** appears.
- 4 Press the **Scroll** buttons until the scan setting option you want appears and press **OK**.
- 5 Press the **Scroll** buttons until the desired status appears and press **OK**.
- 6 Repeat steps 4 and 5 to set other setting options.
- 7 When you have finished, press **Stop/Clear** to return to Standby mode.

Changing the default scan settings

To avoid having to customize the scan settings for each job, you can set up default scan settings.

- 1 Press **Menu** until **Scan Menu** appears on the bottom line of the display and press **OK**.
- 2 Press the **Scroll** buttons until **Scan Setup** appears and press **OK**.
- 3 Press **OK** when **Change Default** appears.
- 4 Press **OK** when **USB Memory** appears.
- 5 Press the **Scroll** buttons until the scan setting option you want appears and press **OK**.
- 6 Press the **Scroll** buttons until the desired status appears and press **OK**.
- 7 Repeat steps 5 and 6 to change other settings.
- 8 Press **Stop/Clear** to return to Standby mode.

9 Using USB flash memory

This chapter explains how to use a USB memory device with your machine.

This chapter includes:

- **About USB memory**
- **Plugging in a USB memory device**
- **Scanning to a USB memory device**
- **Printing from a USB memory device**
- **Managing USB memory**
- **Printing directly from a digital camera**

About USB memory

USB memory devices are available with a variety of memory capacities to give you more room for storing documents, presentations, downloaded music and videos, high resolution photographs, or whatever other files you want to store or move.

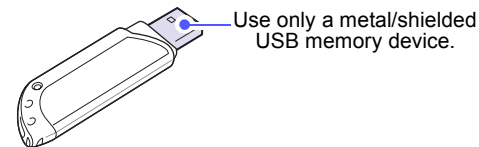
You can do the following on your machine using a USB memory device:

- Scan documents and save them on a USB memory device.
- Print data stored on a USB memory device.
- Restore backup files to the machine's memory.
- Format the USB memory device.
- Check the available memory space.

Plugging in a USB memory device

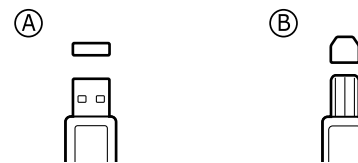
The USB memory port on the front of your machine is designed for USB V1.1 and USB V2.0 memory devices. Your machine supports USB memory devices with FAT16/ FAT32 and sector size 512 Byte. Check your USB memory devices' file system from your dealer.

You must use only an authorized USB memory device with an A plug type connector.

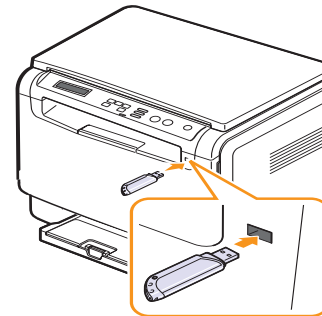


Note

There are two USB plug types.



Insert a USB memory device into the USB memory port on the front of your machine.



Caution

- Do not remove the USB memory device while the machine is in operation, or writing to or reading from USB memory. This may damage your machine.
- If your USB memory device has certain features, such as security settings and password settings, your machine may not automatically detect it. For details about these features, see the device's User's Guide.

Scanning to a USB memory device

You can scan a document and save the scanned image onto a USB memory device. There are two ways of doing this: you can scan to the device using the default settings, or you can customize your own scan settings.

Scanning

- 1 Insert a USB memory device into the USB memory port on your machine.
- 2 Place a single original face down on the scanner glass.
For details about loading an original, see page 5.1.
- 3 Press **Scan to**.
- 4 Press **OK** when **Scan to USB** appears on the bottom line of the display.
- 5 Press **OK**, **Color Start** or **Black Start** when **USB** appears.
Regardless of the button you press, the color mode is decided as customized. See “Customizing scan to USB” on page 9.2.

Your machine begins scanning the original, and then asks if you want to scan another page.
- 6 Press **OK** when **Yes** appears to scan more pages. Load an original and press **Color Start** or **Black Start**.
Regardless of the button you press, the color mode is decided as customized. See “Customizing scan to USB” on page 9.2.

Otherwise, press the **Scroll** buttons to select **No** and press **OK**.

After scanning is complete, you can remove the USB memory device from the machine.



Note

Your machine creates the SCANFILE folder on the USB drive, and stores scanned data.

Customizing scan to USB

You can specify image size, file format, or color mode for each scanning to USB job.

- 1 Press **Menu** until **Scan Menu** appears on the bottom line of the display and press **OK**.
- 2 Press the **Scroll** buttons until **Scan Feature** appears and press **OK**.
- 3 Press **OK** when **USB Memory** appears.
- 4 Press the **Scroll** buttons until the setting option you want appears and press **OK**.

You can set the following options:

- **Scan Size**: Sets the image size.
 - **Original Type**: Sets the original document's type.
 - **Resolution**: Sets the image resolution.
 - **Scan Color**: Sets the color mode. If you select **Mono** in this option, you can not select **JPEG** in **Scan Format**.
 - **Scan Format**: Sets the file format in which the image is to be saved. When you select **TIFF** or **PDF**, you can select to scan multiple pages. If you select **JPEG** in this option, you can not select **Mono** in **Scan Color**.
- 5 Press the **Scroll** buttons until the desired status appears and press **OK**.
 - 6 Repeat steps 4 and 5 to set other setting options.
 - 7 When you have finished, press **Stop/Clear** to return to Standby mode.

You can change the default scan settings. For details, see page 8.3.

Printing from a USB memory device

You can directly print files stored on a USB memory device. You can print TIFF, BMP, JPEG.

Direct Print option supported file types:

- BMP: BMP Uncompressed
- TIFF: TIFF 6.0 Baseline
- JPEG: JPEG Baseline

To print a document from a USB memory device:

- 1 Insert a USB memory device into the USB memory port on your machine. If one has already been inserted, press **USB Print**.
Your machine automatically detects the device and reads data stored on it.
- 2 Press the **Scroll** buttons until the folder or file you want appears and press **OK**.
If you see **D** in the front of a folder name, there are one or more files or folders in the selected folder.
- 3 If you selected a file, skip to the next step.
If you selected a folder, press the **Scroll** buttons until the file you want appears.
- 4 Press the **Scroll** buttons to select the number of copies to be printed or enter the number.
- 5 Press **OK**, **Color Start** or **Black Start** to start printing the selected file.
There are two types of mode as following:
 - **OK** or **Color Start**: Color print
 - **Black Start**: Black and White printAfter printing the file, the display asks if you want to print another job.
- 6 Press **OK** when **Yes** appears to print another job, and repeat from step 2.
Otherwise, press the **Scroll** buttons to select **No** and press **OK**.
- 7 Press **Stop/Clear** to return to Standby mode.

Managing USB memory


You can delete image files stored on a USB memory device one by one or all at once by reformatting the device.



Caution

After deleting files or reformatting a USB memory device, files cannot be restored. Therefore, confirm that you no longer need the data before deleting it.

Deleting an image file

- 1 Insert the USB memory device into the USB memory port on your machine.
- 2 Press **Scan to**.
- 3 Press **OK** when **Scan to USB** appears on the bottom line of the display.
- 4 Press the **Scroll** buttons until **File Manage** appears and press **OK**.
- 5 Press **OK** when **Delete** appears.
- 6 Press the **Scroll** buttons until the folder or file you want appears and press **OK**.
 **Note**
If you see **D** in the front of a folder name, there are one or more files or folders in the selected folder.
If you selected a file, the display shows the size of the file for about 2 seconds. Go to the next step.
If you selected a folder, press the **Scroll** buttons until the file you want to delete appears and press **OK**.
- 7 Press **OK** when **Yes** appears to confirm your selection.
- 8 Press **Stop/Clear** to return to Standby mode.

Formatting a USB memory device

- 1 Insert the USB memory device into the USB memory port on your machine.
- 2 Press **Scan to**.
- 3 Press **OK** when **Scan to USB** appears on the bottom line of the display.
- 4 Press the **Scroll** buttons until **File Manage** appears and press **OK**.
- 5 Press the **Scroll** buttons until **Format** appears and press **OK**.
- 6 Press **OK** when **Yes** appears to confirm your selection.
- 7 Press **Stop/Clear** to return to Standby mode.

Viewing the USB memory status

You can check the amount of memory space available for scanning and saving documents.

- 1 Insert the USB memory device into the USB memory port on your machine.
- 2 Press **Scan to**.
- 3 Press **OK** when **Scan to USB** appears on the bottom line of the display.
- 4 Press the **Scroll** buttons until **Check Space** appears and press **OK**.

The available memory space appears on the display.

- 5 Press **Stop/Clear** to return to the Standby mode.

Printing directly from a digital camera

This machine supports the PictBridge feature. You can print images directly from any PictBridge-compatible device, such as a digital camera, camera phone, and camcorder. You do not need to connect it to a computer.

- 1 Turn on the machine.
- 2 Connect your PictBridge-compatible device to the memory port on the front of the machine using the USB cable supplied with the device.
- 3 Send an order to print images from the PictBridge-compatible device.



Note

- Detailed information on how to print an image from a camera with PictBridge feature, refer to the manual provided with your camera.
- Index print not support.
- Not support date or file name print.

10 Maintenance

This chapter provides information for maintaining your machine and the toner cartridge.

This chapter includes:

- **Printing reports**
- **Clearing memory**
- **Cleaning your machine**
- **Maintaining the toner cartridge**
- **Redistributing toner**
- **Replacing the toner cartridge**
- **Replacing the imaging unit**
- **Replacing the waste toner container**
- **Maintenance parts**
- **Managing your machine from the website**
- **Checking the machine's serial number**

Printing reports

Your machine can provide various reports with useful information you will need. The following reports are available:

Reports in the colored cells are only available with **CLX-2160N**.

Report/List	Description
Configuration	This list shows the status of the user-selectable options. You may print this list to confirm your changes after changing settings.
Supplies Info	This list shows the current status of consumables in your machine.
Network Info.	This list shows information on your machine's network connection and configuration.
NetScan Report	This report shows information for the Network Scan records including IP address, time and date, the number of pages scanned, and results.

Printing a report

- 1 Press **Menu** until **Copy Menu** appears on the bottom line of the display and press **OK**.
- 2 Press the **Scroll** buttons until **System Setup** appears and press **OK**.
- 3 Press the **Scroll** buttons until **Report** appears and press **OK**.
- 4 Press the **Scroll** buttons until the report or list you want to print appears and press **OK**.

To print all reports and lists, select **All Report**.

- 5 Press **OK** when **Yes** appears to confirm printing.

The selected information prints out.

Clearing memory

You can selectively clear information stored in your machine's memory.

- 1 Press **Menu** until **Copy Menu** appears on the bottom line of the display and press **OK**.
- 2 Press the **Scroll** buttons until **System Setup** appears and press **OK**.
- 3 Press the **Scroll** buttons until **Clear Setting** appears and press **OK**.
- 4 Press the **Scroll** buttons until the item you want to clear appears.

The options in the colored cells are available only with **CLX-2160N**.

Options	Description
All Settings	Clears all of the data stored in memory and resets all of your settings to the factory default.
Copy Setup	Restores all of the copy options to the factory default.
Scan Setup	Restores all of the scan options to the factory default.
System Setup	Restores all of the system options to the factory default.
Network	Restores all of the network options to the factory default.
NetScan Report	Clears the information on network scan sessions in memory.

- 5 Press **OK** when **Yes** appears.
- 6 Press **OK** again to confirm clearing.
- 7 Repeat steps 5 through 7 to clear another item.
- 8 Press **Stop/Clear** to return to Standby mode.

Cleaning your machine

To maintain print and scan quality, follow the cleaning procedures below each time the toner cartridge is replaced or if print and scan quality problems occur.



Caution

- Cleaning the cabinet of the machine with cleaning materials containing large amounts of alcohol, solvent, or other strong substances can discolor or distort the cabinet.
- If your machine or its around is contaminated with toner, we recommend you to use cloth or tissue dampened with water to clean it. If you use a vacuum cleaner, toner blows in the air and might be harmful for you.

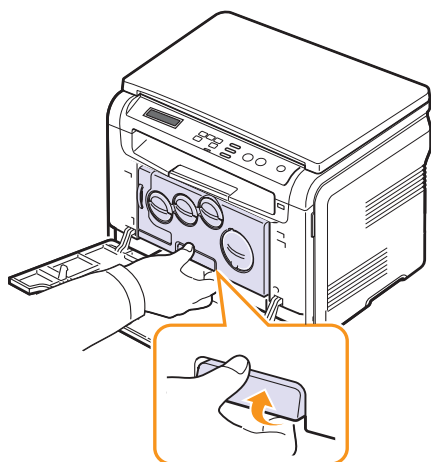
Cleaning the outside

Clean the cabinet of the machine with a soft lint-free cloth. You can dampen the cloth slightly with water, but be careful not to let any water drip onto or into the machine.

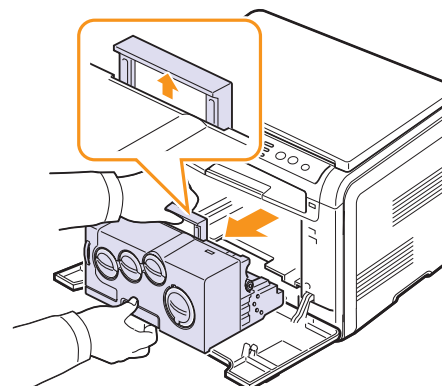
Cleaning the inside

During the printing process, paper, toner, and dust particles can accumulate inside the machine. This buildup can cause print quality problems, such as toner specks or smearing. Cleaning the inside of the machine clears or reduces these problems.

- 1 Turn the machine off and unplug the power cord. Wait for the machine to cool down.
- 2 Open the front cover and pull the imaging unit out of the machine using the handle on its bottom.



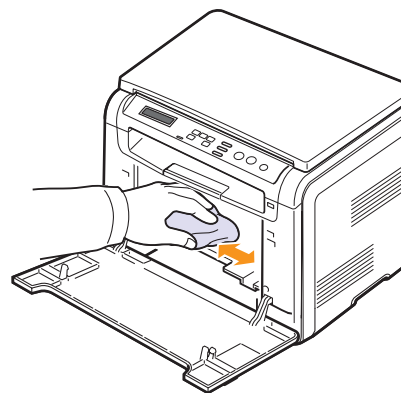
- 3 Extend the top handle on the imaging unit and then use it to pull the imaging unit out of the machine completely.



Caution

- To prevent damage to the imaging unit, do not expose it to light for more than a few minutes. Cover it with a piece of paper, if necessary.
- Do not touch the green surface on the imaging unit with your hands or any other material. Use the handle on it to avoid touching this area.
- Be careful not to scratch the surface of the imaging unit.

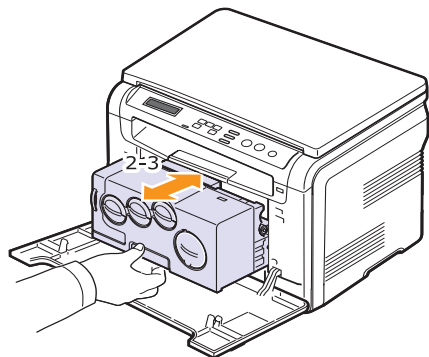
- 4 With a dry lint-free cloth, wipe away any dust and spilled toner.



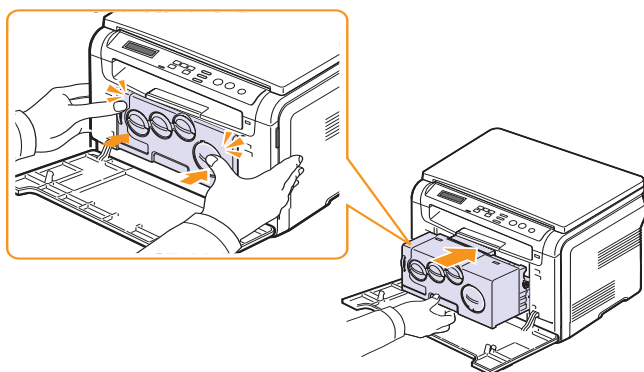
Note

After cleaning, let the printer to dry completely.

- 5 Pull the imaging unit about half and push it until it sounds 'click'. Repeat this action two or three times.



- 6 Push the imaging unit until it sounds 'click' in to the machine.



- 7 Close the front cover firmly.



Caution

If the front cover is not completely closed, the machine will not operate.

- 8 Plug in the power cord and turn the machine on.



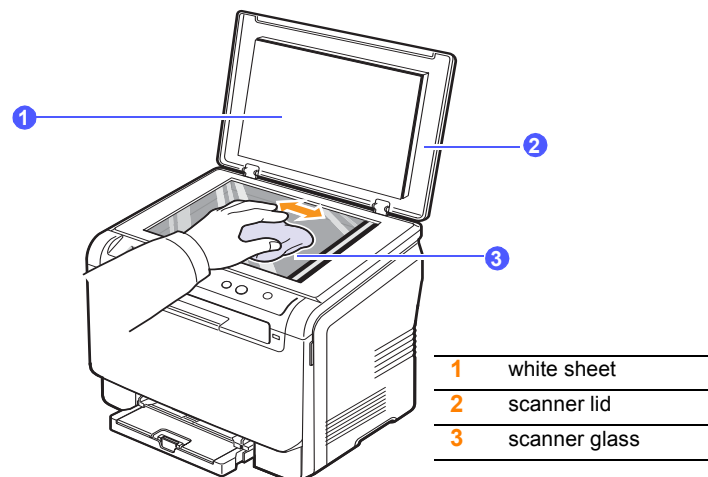
Caution

If there is a cracking sound, re-install the imaging unit. The imaging unit is not properly installed.

Cleaning the scan unit

Keeping the scan unit clean helps ensure the best possible copies. We suggest that you clean the scan unit at the start of each day and during the day, as needed.

- 1 Slightly dampen a soft lint-free cloth or paper towel with water.
- 2 Open the scanner lid.
- 3 Wipe the surface of the scanner glass until it is clean and dry.



- 4 Wipe the underside of the scanner lid and white sheet until it is clean and dry.
- 5 Close the scanner lid.

Maintaining the toner cartridge

Toner cartridge storage

To get the most from the toner cartridge, keep the following guidelines in mind:

- Do not remove the toner cartridge from its package until ready for use.
- Do not refill the toner cartridge. The machine warranty does not cover damage caused by using a refilled cartridge.
- Store toner cartridges in the same environment as your machine.
- To prevent damage to the toner cartridge, do not expose it to light for more than a few minutes.

Expected cartridge life

The life of the toner cartridge depends on the amount of toner that print jobs require. The actual number may also be different depending on the print density of the pages you print on, and the number of pages may be affected by operating environment, printing interval, media type, and media size. If you print a lot of graphics, you may need to change the cartridge more often.

Redistributing toner

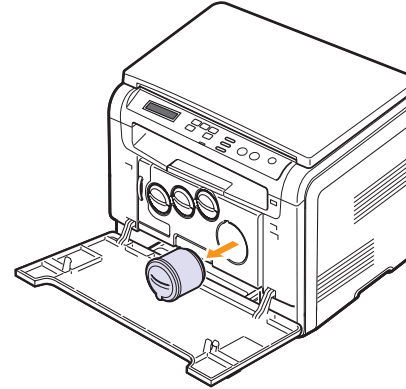
When the toner cartridge is near the end of its life:

- White streaks or light printing occurs.
- The toner related message telling that the toner is low.
- SmartPanel program window appears on the computer telling you which color cartridge is low on toner.
- The **Status** LED blinks red.

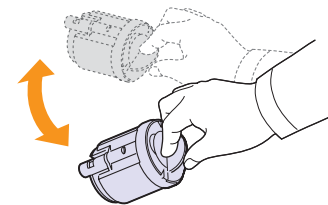
If this happens, you can temporarily reestablish print quality by redistributing the remaining toner in the cartridge. In some cases, white streaks or light printing will still occur even after you have redistributed the toner.

- 1 Open the front cover.

- 2 Pull the corresponding toner cartridge out.



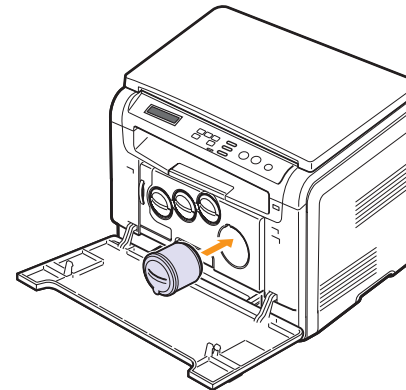
- 3 Holding the toner cartridge, thoroughly roll it 5 or 6 times to distribute the toner evenly inside the cartridge.



Note

If toner gets on your clothing, wipe it off with a dry cloth and wash clothing in cold water. Hot water sets toner into fabric.

- 4 Grasp the toner cartridge and align it with the corresponding slot inside the machine. Insert it back into its slot until it clicks into place.



- 5 Close the front cover. Make sure that the cover is securely closed.

Replacing the toner cartridge

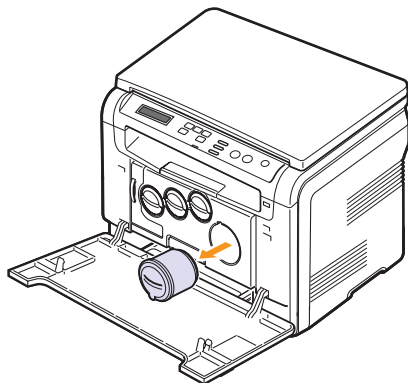
The machine uses four colors and has a different toner cartridge for each one: yellow (Y), magenta (M), cyan (C), and black (K).

When the toner cartridge is completely empty:

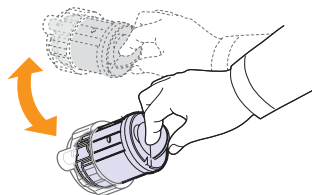
- The **Status** LED and the toner-related message on the display indicate when each individual toner cartridge should be replaced.
- The machine stops printing.

At this stage, the toner cartridge needs to be replaced. For order information for toner cartridges, see page 12.1.

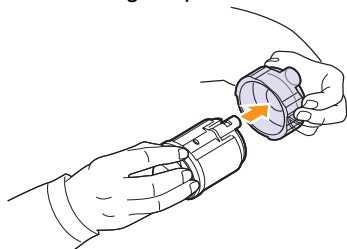
- 1 Turn the machine off, then wait a few minutes for the machine to cool.
- 2 Open the front cover.
- 3 Pull the corresponding toner cartridge out.



- 4 Take a new toner cartridge out of its package.
- 5 Holding the toner cartridge, thoroughly roll it 5 or 6 times to distribute the toner evenly inside the cartridge.



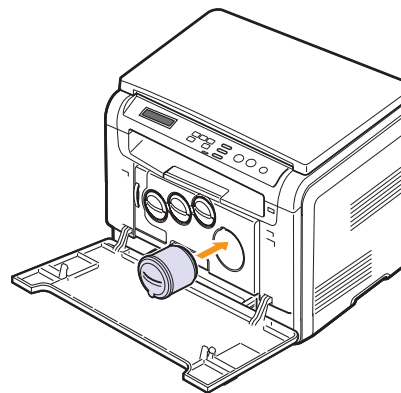
- 6 Remove the cartridge cap.



Note

If toner gets on your clothing, wipe it off with a dry cloth and wash clothing in cold water. Hot water sets toner into fabric.

- 7 Grasp the toner cartridge and align it with the corresponding slot inside the machine. Insert it into its slot until it clicks into place.



- 8 Close the front cover. Make sure that the cover is securely latched and then turn the machine on.



Caution

If the front cover is not completely closed, the machine will not operate.



Note

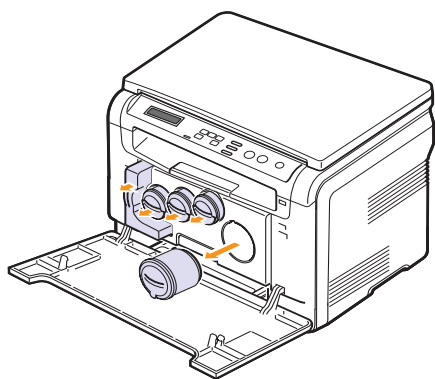
If the installation is completed properly, a guide report is printed out automatically. Wait for about 1.5 minutes for the machine to get ready.

Replacing the imaging unit

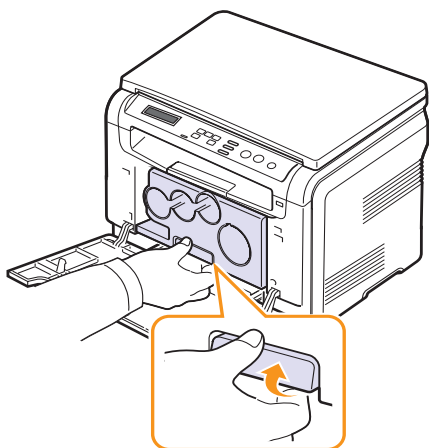
The life of the imaging unit is approximately 20,000 pages for black or 50,000 image printing whichever comes first. When the life span of the imaging unit has expired, **Replace Imaging Unit** appears on the display of the control panel, indicating the imaging unit needs to be replaced. Otherwise your printer stops printing.

To replace the imaging unit:

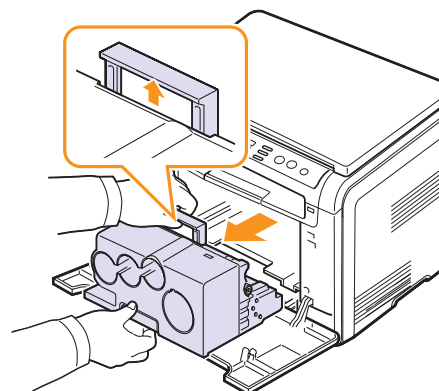
- 1 Turn the machine off, then wait a few minutes for the machine to cool.
- 2 Open the front cover.
- 3 Remove all of the toner cartridges and waste toner container from the machine.



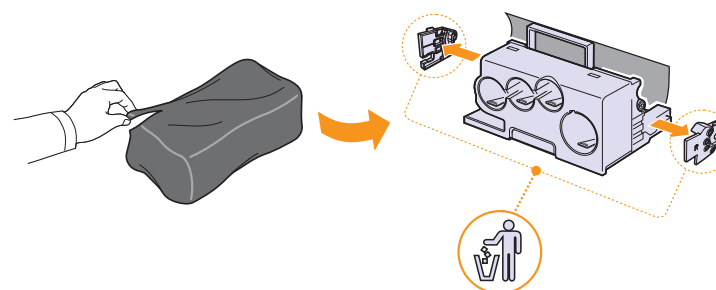
- 4 Pull the imaging unit out of the machine using the handle on its bottom.



- 5 Extend the top handle on the imaging unit and then use it to pull the imaging unit out of the machine completely.



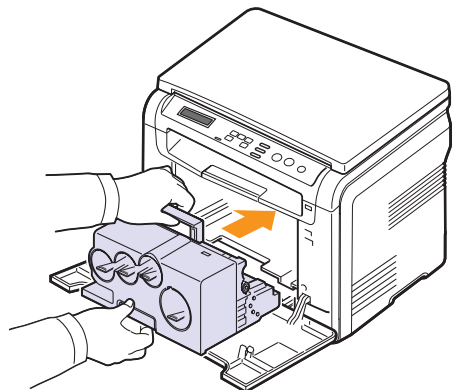
- 6 Take a new imaging unit out of its package. Remove the protective devices on both sides of the imaging unit and the paper protecting the surface of the imaging unit.



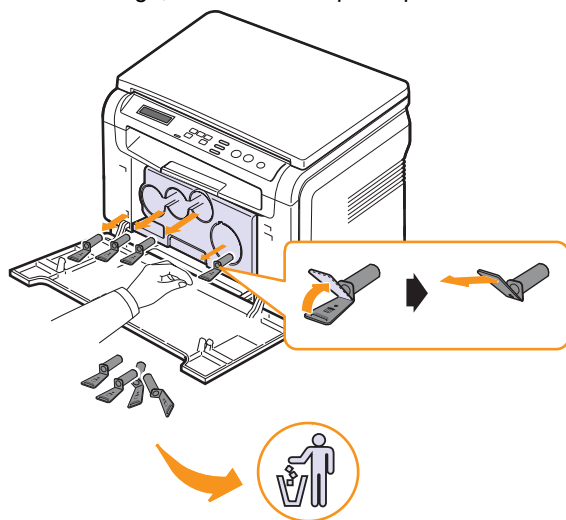
Caution

- Don't use sharp objects, such as a knife or scissors, to open the imaging unit package. You could damage the surface of the imaging unit.
- Be careful not to scratch the surface of the imaging unit.
- To prevent damage, do not expose the imaging unit to light for more than a few minutes. Cover it with a piece of paper to protect it if necessary.

- 7 Holding the handles on the new imaging unit, push the imaging unit until it sounds 'click' into the machine.

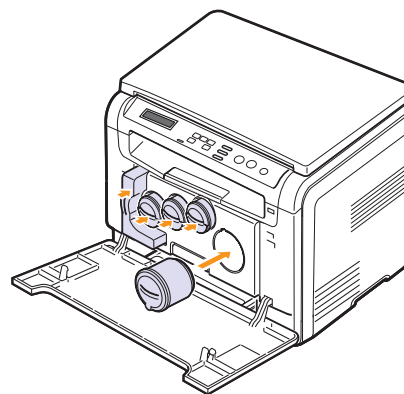


- 8 Remove four dummy caps which are on the toner cartridge entrances of the imaging unit. When you remove the dummy cap from the cartridge, lift the handle up and pull it out.



- Caution**
If you force too much to the dummy caps, it may cause problem.

- 9 Insert the toner cartridges and waste toner container into their corresponding slots until they click into place.



- 10 Close the front cover firmly.

- Caution**
If the front cover is not completely closed, the machine will not operate.

- 11 Turn the machine on.

- Note**
- After rebooting, your machine will automatically reset the counter for the imaging unit.
 - If the installation is completed properly, a guide report is printed out automatically. Wait for about 1.5 minutes for the machine to get ready.

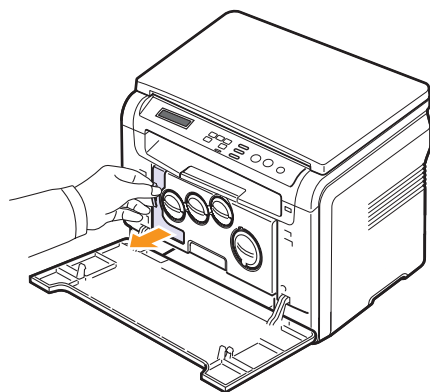
- Caution**
If there is a cracking sound, re-install the imaging unit. The imaging unit is not properly installed.

Replacing the waste toner container

The life of the waste toner container unit is approximately 1,250 pages for full color 5% image printing or 5,000 images for black printing. When the life span of the waste toner container has expired, **Replace/Install Waste Toner Tank** appears on the display of the control panel, indicating the waste toner container needs to be replaced. Otherwise your printer stops printing.

To replace the waste toner container:

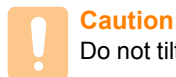
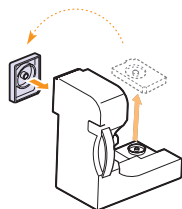
- 1 Turn the machine off, then wait a few minutes for the machine to cool.
- 2 Open the front cover.
- 3 Pull the waste toner container out of the machine using its handle.



Note

Make sure that you lay the waste toner container on a flat surface so that the toner does not spill.

- 4 Remove the container's cap from the container as shown below, and use it to close the waste toner container opening.

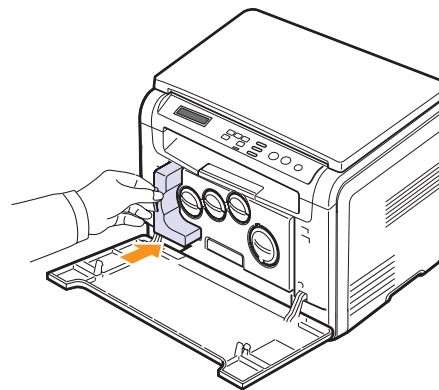


Caution

Do not tilt or turn over the container.

- 5 Take a new waste toner container out of its package.

- 6 Insert the new container into position and then push it to make sure that it is firmly seated in place.



- 7 Close the front cover firmly.



Caution

If the front cover is not completely closed, the machine will not operate.

- 8 Turn the machine on.



Note

After rebooting, your machine will automatically reset the counter for the waste toner container.

Maintenance parts

To avoid print quality and paper feed problems resulting from worn parts and to maintain your machine in top working condition the following items will need to be replaced at the specified number of pages or when the life span of each item has expired.

Items	Yield (Average)
Transfer belt	Approx. 60,000 images
Transfer roller	Approx. 100,000 pages
Fuser unit	Approx. 100,000 black pages or 50,000 color pages
Tray rubber pad	Approx. 250,000 pages
Pickup roller	Approx. 50,000 pages

Samsung highly recommends that an authorized service provider, dealer or the retailer where you bought printer performs this maintenance activity.

Checking replaceables

If you experience frequent paper jams or printing problems, check the number of pages the machine has printed or scanned. Replace the corresponding parts, if necessary.

The following information are available for checking the replaceable elements of your machine:

- **Supplies Info:** prints the supply information page.
- **Total:** displays the total number of pages printed.
- **Platen Scan:** displays the number of pages scanned using the scanner glass.
- **Imaging Unit, Transfer Belt, Fuser, TransferRoller, Tray Roller:** displays the number of pages printed each item.

To check the replaceables:

- 1 Press **Menu** until **Copy Menu** appears on the bottom line of the display and press **OK**.
- 2 Press the **Scroll** buttons until **System Setup** appears and press **OK**.
- 3 Press the **Scroll** buttons until **Maintenance** appears and press **OK**.
- 4 Press the **Scroll** buttons until **Supplies Life** appears and press **OK**.
- 5 Press the **Scroll** buttons until the item you want appears and press **OK**.
- 6 If you selected to print a supply information page, press **OK** to confirm.
- 7 Press **Stop/Clear** to return to Standby mode.

Managing your machine from the website

If you have connected your machine to a network and set up TCP/IP network parameters correctly, you can manage the machine via Samsung's **SyncThru™ Web Service**, an embedded web server. Use **SyncThru™ Web Service** to:

- View the machine's device information and check its current status.
- Change TCP/IP parameters and set up other network parameters.
- Change the printer properties.
- Set the machine to send email notifications to let you know the machine's status.
- Get support for using the machine.

To access **SyncThru™ Web Service**:

- 1 Start a web browser, such as Internet Explorer, from Windows.
- 2 Enter the machine IP address (<http://xxx.xxx.xxx.xxx>) in the address field and press the **Enter** key or click **Go**.

Your machine's embedded website opens.

Checking the machine's serial number

When you call for service or register as a user on the Samsung website, the machine's serial number may be required.

You can check the serial number by taking the following steps:

- 1 Press **Menu** until **Copy Menu** appears on the bottom line of the display and press **OK**.
- 2 Press the **Scroll** buttons until **System Setup** appears and press **OK**.
- 3 Press the **Scroll** buttons until **Maintenance** appears and press **OK**.
- 4 Press the **Scroll** buttons until **Serial Number** appears and press **OK**.
- 5 Check your machine's serial number.
- 6 Press **Stop/Clear** to return to Standby mode.

11 Troubleshooting

This chapter gives helpful information for what to do if you encounter an error.

This chapter includes:

- **Tips for avoiding paper jams**
- **Clearing paper jams**
- **Understanding display messages**
- **Solving other problems**

Tips for avoiding paper jams

By selecting the correct media types, most paper jams can be avoided. When a paper jam occurs, follow the steps outlined on page 11.1.

- Follow the procedures on page 5.5. Ensure that the adjustable guides are positioned correctly.
- Do not overload the tray. Ensure that the paper level is under the brackets of the tray.
- Do not remove paper from the tray while your machine is printing.
- Flex, fan, and straighten paper before loading.
- Do not use creased, damp, or highly curled paper.
- Do not mix paper types in a tray.
- Use only recommended print media. See page 5.1.

Ensure that the recommended print side of print media is facing up in the manual tray and tray.

Clearing paper jams

When a paper jam occurs, paper jam messages appear on the display. Refer to the table below to locate and clear the paper jam.

Message	Location of jam	Go to
Paper Jam 0 Open/Close Door	In the paper feed area	page 11.1
Paper Jam 1 Open/Close Door	In the fuser area or around the rear cover	page 11.3
Scan Unit Open or Paper Jam2	In the paper exit area	page 11.2
Manual Feeder Paper Jam 0	In the paper feed area	page 11.2

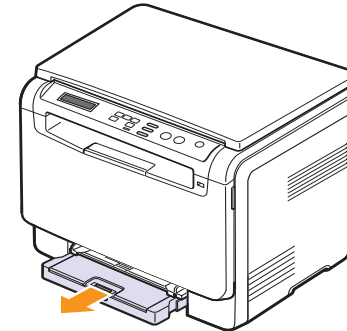


Caution

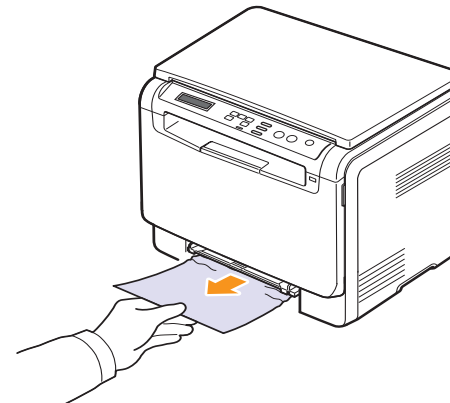
To avoid tearing the paper, pull out the jammed paper gently and slowly. Follow the instructions in the following sections to clear the jam.

In the tray

- 1 Open and close the front cover. The jammed paper is automatically ejected from the machine.
If the paper does not exit, go to the next step.
- 2 Pull the tray out of the machine.



- 3 Remove the jammed paper by gently pulling it straight out.

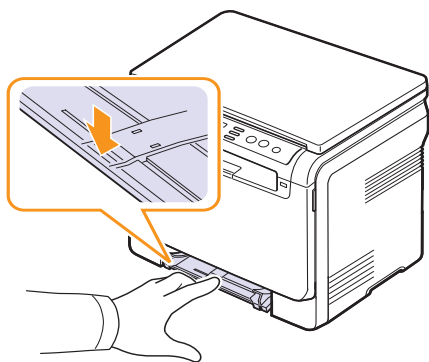


If the paper does not move when you pull, or if you do not see the paper in this area, check the paper exit area. See page 11.2.

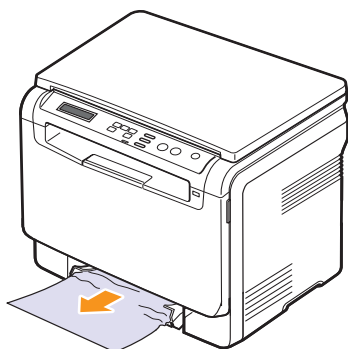
- 4 Insert the tray into the machine until it snaps into place.
- 5 Open and close the front cover. Printing automatically resumes.

In the manual feeder

- 1 Pull the tray out.
- 2 Push the manual feeder tab down.



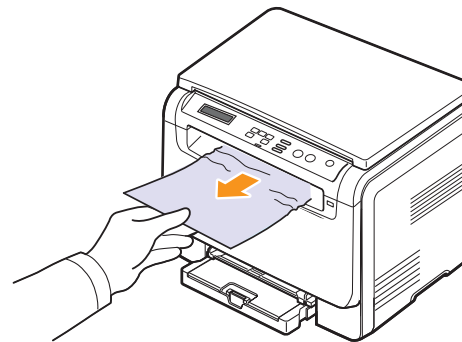
- 3 Pull the jammed paper out of the manual feeder.



- 4 Insert the tray into the machine until it snaps into place.
- 5 Open and close the front cover. Printing automatically resumes.

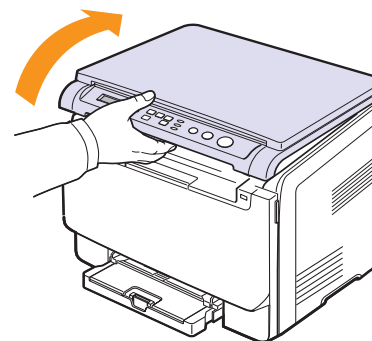
In the paper exit area

- 1 Open and close the front cover. The jammed paper is automatically ejected from the machine.
- 2 Gently pull the paper out of the output tray.

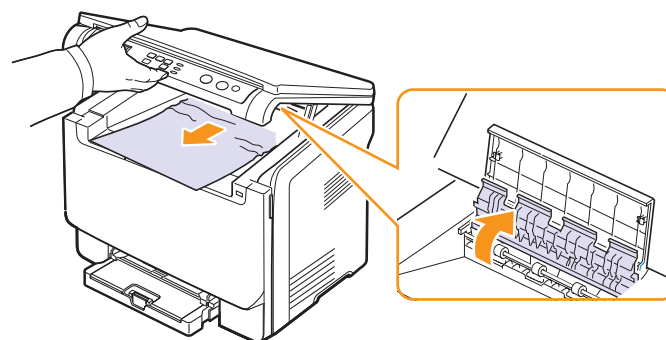


If you do not see the jammed paper or if there is any resistance when you pull, stop and go to the next step.

- 3 Lift the scan unit.

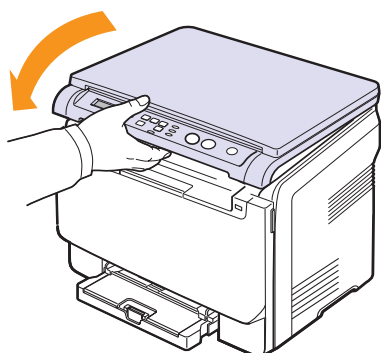


- 4 Holding the inner cover open, carefully take the jammed paper out of the machine.



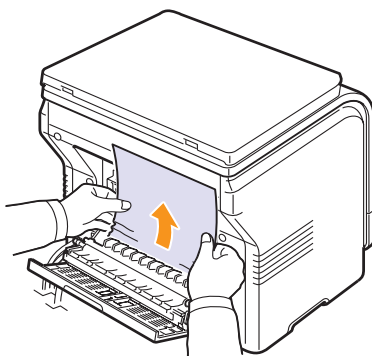
- 5 Lowering down the scan unit gently and slowly until it is completely closed. The inner cover will be closed automatically by the scan unit closed.

Be careful not to pinch your fingers!



If there is any resistance and the paper does not move when you pull or if you cannot see the paper under the scan unit, continue to the next step.

- 6 Open the rear cover.
7 If you see the jammed paper, pull it straight up.



- 8 Close the rear cover. Printing automatically resumes.

Understanding display messages

Messages appear on the control panel display to indicate the machine's status or errors. Refer to the tables below to understand the messages' meaning and correct the problem if necessary. Messages and their meanings are listed in alphabetical order.



Note

When you call for service, it is very convenient to tell the service representative the display message.

Messages in the colored cells are available only with **CLX-2160N**.

Message	Meaning	Suggested solutions
Toner Empty ▼	The color toner cartridge has run out. The machine stops printing. The arrow indicates which color toner cartridge.	Replace the color toner cartridge with a new one. See page 10.5
Toner Low ▼	The corresponding color toner cartridge is almost empty. The arrow indicates which color toner cartridge.	Take out the toner cartridge and thoroughly shake it. By doing this, you can temporarily reestablish printing operations.
TonerSupply Err. ▼	The machine received several papers with many images, and it can not supply the toner properly. The arrow indicates which color toner cartridge.	Unplug the power cord and plug it back in. If the problem persists, please call for service.
Data Read Fail Check USB Mem.	Time expired while reading data.	Try again.
Data Write Fail Check USB Mem.	Storing to the USB memory failed.	Check the available USB memory space.
Door Open	The front cover or rear cover is not securely latched.	Close the cover until it locks into place.
File Format Not Supported	The selected file format is not supported.	Use the correct file format.
Fuser Fan Locked	There is a problem in the cooling fan of the machine.	Open and then close the front cover.

Message	Meaning	Suggested solutions
Install Toner ▼	The color toner cartridge is not installed. The arrow indicates which color toner cartridge.	Install the color toner cartridge.
Install Imaging Unit	The corresponding Imaging Unit of the machine is not installed.	Install Imaging Unit into your machine.
Invalid Toner ▼	The color toner cartridge you have installed is not for your machine. The arrow indicates which color toner cartridge.	Install the a Samsung-genuine color toner cartridge designed for your machine.
Invalid Imaging Unit	The Imaging Unit of the machine is not for your machine.	Install the a Samsung-genuine part designed for your machine.
Low Heat Error Cycle Power	There is a problem in the fuser unit.	Unplug the power cord and plug it back in. If the problem persists, please call for service.
LSU Hsync Error Cycle Power	A problem has occurred in the LSU (Laser Scanning Unit).	Unplug the power cord and plug it back in. If the problem persists, please call for service.
LSU Motor Error Cycle Power	A problem has occurred in the LSU (Laser Scanning Unit).	Unplug the power cord and plug it back in. If the problem persists, please call for service.
Main Motor Locked	There is a problem in the main motor.	Open and then close the front cover.
Manual Feeder Paper Empty	There is no paper in the manual feeder.	Load paper in the manual feeder.
Manual Feeder Paper Jam 0	Paper has jammed in the feeding area of the manual feeder.	Clear the jam. See page 11.2.
Not Enough Space In USB Memory	The space for USB memory device is not enough, which is for scanning and saving.	Check the available USB memory space. See page 9.4.
Network Error	There is a problem with the network.	Contact your network administrator.

Message	Meaning	Suggested solutions
Open Heat Error Cycle Power	There is a problem in the fuser unit.	Unplug the power cord and plug it back in. If the problem persists, please call for service.
Out-Bin Full	The output tray of the machine is full of paper.	Remove paper.
Over Heat Error Cycle Power	There is a problem in the fuser unit.	Unplug the power cord and plug it back in. If the problem persists, please call for service.
Paper Jam 0 Open/Close Door	Paper has jammed in the feeding area of the tray.	Clear the jam. See page 11.1, 11.2.
Scan Unit Open or Paper Jam2	The scan unit is not securely latched. Paper has jammed in the paper exit area.	Close the scan until it locks into place. Clear the jam. See page 11.2.
Paper Jam 1 Open/Close Door	Paper has jammed In the fuser area or rear cover.	Clear the jam. See page 11.2.
Tray Paper Mismatch	The paper size specified in the printer properties does not match the paper you are loading.	Load the correct paper in the tray 1.
Refilled Toner ▼	The toner cartridge you have installed is not genuine or refilled. The arrow indicates which color toner cartridge.	The print quality may get poor if the refilled toner cartridge is installed, since its characteristics may significantly differ from the genuine. We recommend Samsung-genuine color toner cartridge.
Replace Toner ▼	This message appears between Toner Empty and Toner Low status. The arrow indicates which color toner cartridge.	Replace the toner cartridge with a new one. See page 10.5.

Message	Meaning	Suggested solutions
Replace [zzz] * zzz indicates the part of the machine.	The life of the part expires totally.	Replace the part with a new one. Call for service.
Replace [zzz] Soon * xxx indicates the part of the machine.	The life of the part expires soon.	See page 10.9 and call for service.
Replace/Install Waste Toner Tank	The life span of the waste toner tank has expired and the printer will stop printing until a new waste toner tank is placed into the printer.	See page 10.8
Scanner locked	The scanner module is locked	Unlock the scanner and press Stop/Clear .
Transfer Belt Error	A problem has occurred in the transfer belt in the machine.	Unplug the power cord and plug it back in. If the problem persists, please call for service.
Tray Paper Empty	There is no paper in the tray 1.	Load paper in the tray 1. See page 5.5.

Solving other problems

The following chart lists some conditions that may occur and the recommended solutions. Follow the suggested solutions until the problem is corrected. If the problem persists, please call for service.

Paper feeding problems

Condition	Suggested solutions
Paper is jammed during printing.	Clear the paper jam. See page 11.1.
Paper sticks together.	<ul style="list-style-type: none"> • Ensure that there is not too much paper in the tray. The tray can hold up to 150 sheets of paper, depending on the thickness of your paper. • Make sure that you are using the correct type of paper. See page 5.3. • Remove paper from the tray and flex or fan the paper. • Humid conditions may cause some paper to stick together.
Multiple sheets of paper do not feed.	<ul style="list-style-type: none"> • Different types of paper may be stacked in the tray. Load paper of only one type, size, and weight. • If multiple sheets have caused a paper jam, clear the paper jam. See page 11.1.
Paper does not feed into the machine.	<ul style="list-style-type: none"> • Remove any obstructions from inside the machine. • Paper has not been loaded correctly. Remove paper from the tray and reload it correctly. • There is too much paper in the tray. Remove excess paper from the tray. • The paper is too thick. Use only paper that meets the specifications required by the machine. See page 5.1.
The paper keeps jamming.	<ul style="list-style-type: none"> • There is too much paper in the tray. Remove excess paper from the tray. If you are printing on special materials, use the manual tray. • An incorrect type of paper is being used. Use only paper that meets the specifications required by the machine. See page 5.1. • There may be debris inside the machine. Open the front cover and remove the debris.
Transparencies stick together in the paper exit.	Use only transparencies specifically designed for laser printers. Remove each transparency as it exits from the machine.
Envelopes skew or fail to feed correctly.	Ensure that the paper guides are against both sides of the envelopes.

Printing problems


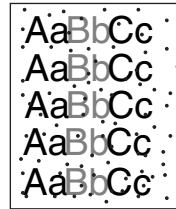
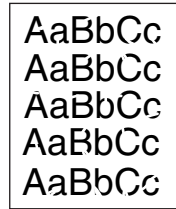
Condition	Possible cause	Suggested solutions
The machine does not print.	The machine is not receiving power.	Check the power cord connections. Check the power switch and the power source.
	The machine is not selected as the default printer.	Select Samsung CLX-216x Series as your default printer in your Windows.
	Check the machine for the following: <ul style="list-style-type: none"> • The front cover is not closed. Close the cover. • Paper is jammed. Clear the paper jam. See 11.1. • No paper is loaded. Load paper. See 5.5. • The toner cartridge is not installed. Install the toner cartridge. If a system error occurs, contact your service representative.	
	The connection cable between the computer and the machine is not connected properly.	Disconnect the printer cable and reconnect it.
	The connection cable between the computer and the machine is defective.	If possible, attach the cable to another computer that is working properly and print a job. You can also try using a different printer cable.
	The port setting is incorrect.	Check the Windows printer setting to make sure that the print job is sent to the correct port. If the computer has more than one port, make sure that the machine is attached to the correct one.
	The machine may be configured incorrectly.	Check the printer properties to ensure that all of the print settings are correct.
	The printer driver may be incorrectly installed.	Repair the printer software. See the Software Section .
	The machine is malfunctioning.	Check the display message on the control panel to see if the machine is indicating a system error.
	The document size is so big that the hard disk space of the computer is not enough to access the print job.	Get more hard disk space and print the document again.

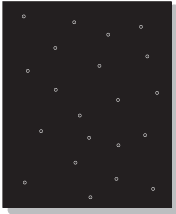
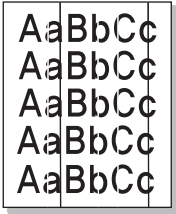

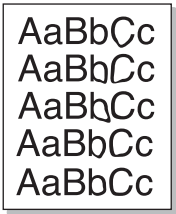
Condition	Possible cause	Suggested solutions
The machine selects print materials from the wrong paper source.	The paper source selection in the printer properties may be incorrect.	For many software applications, the paper source selection is found under the Paper tab within the printer properties. Select the correct paper source. See the printer driver help screen.
A print job is extremely slow.	The job may be very complex.	Reduce the complexity of the page or try adjusting the print quality settings.
	If you are using Windows 9x/Me, the Spool Setting may be set incorrectly.	From the Start menu, choose Settings and then Printers . Right-click the Samsung CLX-216x Series machine icon, choose Properties , click the Details tab, and then choose the Spool Settings button. Select the desired spool setting.
Half the page is blank.	The page orientation setting may be incorrect.	Change the page orientation in your application. See the printer driver help screen.
	The paper size and the paper size settings do not match.	Ensure that the paper size in the printer driver settings matches the paper in the tray. Or, ensure that the paper size in the printer driver settings matches the paper selection in the software application settings you use.

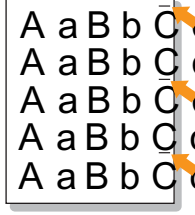
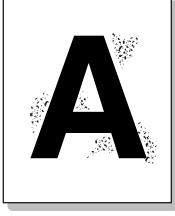
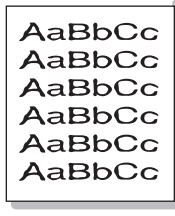
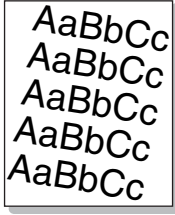
Condition	Possible cause	Suggested solutions
The machine prints, but the text is wrong, garbled, or incomplete.	The printer cable is loose or defective.	Disconnect the printer cable and reconnect. Try a print job that you have already printed successfully. If possible, attach the cable and the machine to another computer and try a print job that you know works. Finally, try a new printer cable.
	The wrong printer driver was selected.	Check the application's printer selection menu to ensure that your machine is selected.
	The software application is malfunctioning.	Try printing a job from another application.
	The operating system is malfunctioning.	Exit Windows and reboot the computer. Turn the machine off and then back on again.
Pages print, but are blank.	The toner cartridge is defective or out of toner.	Redistribute the toner, if necessary. See page 10.4. If necessary, replace the toner cartridge.
	The file may have blank pages.	Check the file to ensure that it does not contain blank pages.
	Some parts, such as the controller or the board, may be defective.	Contact a service representative.
The printer does not print PDF file correctly. Some parts of graphics, text, or illustrations are missing.	Incompatibility between the PDF file and the Acrobat products	Printing the PDF file as an image may solve this problem. Turn on Print As Image from the Acrobat printing options. Note: It will take longer to print when you print a PDF file as an image.

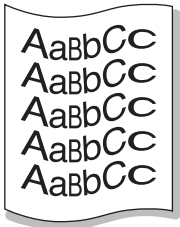
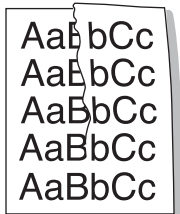
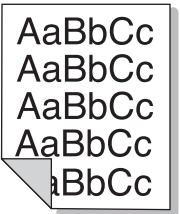
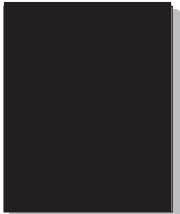
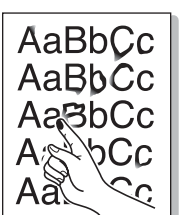
Printing quality problems

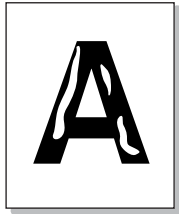
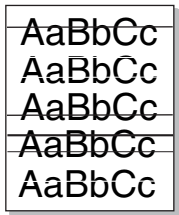
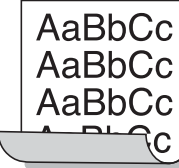
If the inside of the machine is dirty or paper has been loaded improperly, you may notice a reduction in print quality. See the table below to clear the problem.

Condition	Suggested solutions
Light or faded print 	<p>If a vertical white streak or faded area appears on the page:</p> <ul style="list-style-type: none"> The toner supply is low. You may be able to temporarily extend the toner cartridge life. See page 10.4. If this does not improve the print quality, install a new toner cartridge. The paper may not meet paper specifications; for example, the paper is too moist or too rough. See page 5.1. If the entire page is light, the print resolution setting is too low. Adjust the print resolution. See the help screen of the printer driver. A combination of faded or smeared defects may indicate that the toner cartridge needs cleaning. The surface of the LSU part inside the machine may be dirty. Clean the LSU. See page 10.2.
Toner specks 	<ul style="list-style-type: none"> The paper may not meet specifications; for example, the paper is too moist or too rough. See page 5.1. The transfer roller may be dirty. Clean the inside of your machine. See page 10.2. The paper path may need cleaning. See page 10.2.
Dropouts 	<p>If faded areas, generally rounded, occur randomly on the page:</p> <ul style="list-style-type: none"> A single sheet of paper may be defective. Try reprinting the job. The moisture content of the paper is uneven or the paper has moist spots on its surface. Try a different brand of paper. See page 5.1. The paper lot is bad. The manufacturing processes can cause some areas to reject toner. Try a different kind or brand of paper. Change the printer option and try again. Go to printer properties, click Paper tab, and set type to Thick. Refer to the Software Section for details. If these steps do not correct the problem, contact a service representative.

Condition	Suggested solutions
White Spots 	<p>White spots appears on the page:</p> <ul style="list-style-type: none"> The paper is too rough and a lot of dirt from a paper falls to the inner devices within the machine, so the transfer roller may be dirty. Clean the inside of your machine. See page 10.2. Contact a service representative. The paper path may need cleaning. Contact a service representative.
Vertical lines 	<p>If black vertical streaks appear on the page:</p> <ul style="list-style-type: none"> The drum inside the toner cartridge has probably been scratched. Remove the toner cartridge and install a new one. See page 10.5. <p>If white vertical streaks appear on the page:</p> <ul style="list-style-type: none"> The surface of the LSU part inside the machine may be dirty. Clean the LSU. See page 10.2.
Color or Black background 	<p>If the amount of background shading becomes unacceptable:</p> <ul style="list-style-type: none"> Change to a lighter weight paper. See page 5.1. Check the machine's environment: very dry (low humidity) or high humidity (higher than 80% RH) conditions can increase the amount of background shading. Remove the old toner cartridge and install a new one. See page 10.5.
Toner smear 	<ul style="list-style-type: none"> Clean the inside of the machine. See page 10.2. Check the paper type and quality. See page 5.1. Remove the toner cartridge and install a new one. See page 10.5.

Condition	Suggested solutions
Vertical repetitive defects 	<p>If marks repeatedly appear on the printed side of the page at even intervals:</p> <ul style="list-style-type: none"> The toner cartridge may be damaged. If a repetitive mark occurs on the page, print a cleaning sheet several times to clean the cartridge; see page 10.4. After the printout, if you still have the same problems, remove the toner cartridge and install a new one. See page 10.5. Parts of the machine may have toner on them. If the defects occur on the back of the page, the problem will likely correct itself after a few more pages. The fusing assembly may be damaged. Contact a service representative.
Background scatter 	<p>Background scatter results from bits of toner randomly distributed on the printed page.</p> <ul style="list-style-type: none"> The paper may be too damp. Try printing with a different batch of paper. Do not open packages of paper until necessary so that the paper does not absorb too much moisture. If background scatter occurs on an envelope, change the printing layout to avoid printing over areas that have overlapping seams on the reverse side. Printing on seams can cause problems. If background scatter covers the entire surface area of a printed page, adjust the print resolution through your software application or the printer properties.
Misformed characters 	<ul style="list-style-type: none"> If characters are improperly formed and producing hollow images, the paper stock may be too slick. Try a different paper. See page 5.1. If characters are improperly formed and producing a wavy effect, the scanner unit may need service. For service, contact a service representative.
Page skew 	<ul style="list-style-type: none"> Ensure that the paper is loaded properly. Check the paper type and quality. See page 5.1. Ensure that the paper or other material is loaded correctly and the guides are not too tight or too loose against the paper stack.

Condition	Suggested solutions
Curl or wave 	<ul style="list-style-type: none"> • Ensure that the paper is loaded properly. • Check the paper type and quality. Both high temperature and humidity can cause paper curl. See page 5.1. • Turn over the stack of paper in the tray. Also try rotating the paper 180° in the tray.
Wrinkles or creases 	<ul style="list-style-type: none"> • Ensure that the paper is loaded properly. • Check the paper type and quality. See page 5.1. • Turn over the stack of paper in the tray. Also try rotating the paper 180° in the tray.
Back of printouts are dirty 	<p>Check for leaking toner. Clean the inside of the machine. See page 10.2.</p>
Solid Color or Black pages 	<ul style="list-style-type: none"> • The toner cartridge may not be installed properly. Remove the cartridge and reinsert it. • The toner cartridge may be defective and need replacing. Remove the toner cartridge and install a new one. See page 10.5. • The machine may require repair. Contact a service representative.
Loose toner 	<ul style="list-style-type: none"> • Clean the inside of the machine. See page 10.2. • Check the paper type and quality. See page 5.1. • Remove the toner cartridge and install a new one. See page 10.5. • If the problem persists, the machine may require repair. Contact a service representative.

Condition	Suggested solutions
Character Voids 	<p>Character voids are white areas within parts of characters that should be solid black:</p> <ul style="list-style-type: none"> • If you are using transparencies, try another type of transparency. Because of the composition of transparencies, some character voids are normal. • You may be printing on the wrong surface of the paper. Remove the paper and turn it around. • The paper may not meet paper specifications. See page 5.1.
Horizontal stripes 	<p>If horizontally aligned black streaks or smears appear:</p> <ul style="list-style-type: none"> • The toner cartridge may be installed improperly. Remove the cartridge and reinsert it. • The toner cartridge may be defective. Remove the toner cartridge and install a new one. See page 10.5. • If the problem persists, the machine may require repair. Contact a service representative.
Curl 	<p>If the printed paper is curled or paper does not feed into the machine:</p> <ul style="list-style-type: none"> • Turn over the stack of paper in the tray. Also try rotating the paper 180° in the tray. • Change the printer option and try again. Go to printer properties, click Paper tab, and set type to Thin. Refer to the Software Section for details.
<p>An unknown image repetitively appears on a next few sheets or loose toner, light print, or contamination occurs.</p>	<p>Your printer is probably being used at an altitude of 2,500 m (8,200 ft) or above. The high altitude may affect the print quality such as loose toner or light imaging. You can set this option through Printer Settings Utility or Printer tab in printer driver's properties. See page 1.6.</p>

Copying problems

Condition	Suggested solutions
Copies are too light or too dark.	Use Darkness to darken or lighten the background of the copies.
Smears, lines, marks, or spots appears on copies.	<ul style="list-style-type: none"> If defects are on the original, use Darkness to lighten the background of your copies. If no defects are on the original, clean the scan unit. See page 10.3.
Copy image is skewed.	<ul style="list-style-type: none"> Ensure that the original is face down on the scanner glass. Check that the copy paper is loaded correctly.
Blank copies print out.	Ensure that the original is face down on the scanner glass.
Image rubs off the copy easily.	<ul style="list-style-type: none"> Replace the paper in the tray with paper from a new package. In high humidity areas, do not leave paper in the machine for extended periods of time.
Frequent copy paper jams occur.	<ul style="list-style-type: none"> Fan the stack of paper, then turn it over in the tray. Replace the paper in the tray with a fresh supply. Check/adjust the paper guides, if necessary. Ensure that the paper is the proper paper weight. 75 g/m² (20 lb bond) paper is recommended. Check for copy paper or pieces of copy paper remaining in the machine after a paper jam has been cleared.
Toner cartridge produces fewer copies than expected before running out of toner.	<ul style="list-style-type: none"> Your originals may contain pictures, solids, or heavy lines. For example, your originals may be forms, newsletters, books, or other documents that use more toner. The machine may be turned on and off frequently. The scanner lid may be left open while copies are being made.

Scanning problems

Condition	Suggested solutions
The scanner does not work.	<ul style="list-style-type: none"> Make sure that you place the original to be scanned face down on the scanner glass. There may not be enough available memory to hold the document you want to scan. Try the prescan function to see if that works. Try lowering the scan resolution rate. Check that the USB cable is connected properly. Make sure that the USB cable is not defective. Switch the cable with a known good cable. If necessary, replace the cable. Check that the scanner is configured correctly. Check scan setting in the SmarThru Configuration or the application you want to use to make certain that the scanner job is being sent to the correct port.
The unit scans very slowly.	<ul style="list-style-type: none"> Check if the machine is printing received data. If so, scan the document after the received data has been printed. Graphics are scanned more slowly than text. Communication speed slows in scan mode because of the large amount of memory required to analyze and reproduce the scanned image. Set your computer to the ECP printer mode through BIOS setting. It will help to increase the speed. For details about how to set BIOS, refer to your computer user's guide.
Message appears on your computer screen:	<ul style="list-style-type: none"> There may be a copying or printing job in progress. When that job is complete, try your job again. The Selected port is currently being used. Restart your computer and try again. The printer cable may be improperly connected or the power may be off. The scanner driver is not installed or the operating environment is not set up properly. Ensure that the machine is properly connected and the power is on, Then restart your computer. The USB cable may be improperly connected or the power may be off.
<ul style="list-style-type: none"> "Device can't be set to the H/W mode you want." "Port is being used by another program." "Port is Disabled." "Scanner is busy receiving or printing data. When the current job is completed, try again." "Invalid handle." "Scanning has failed." 	

Network Scan problems (CLX-2160N only)

Condition	Suggested solutions
I cannot find a scanned image file.	You can check the scanned file's destination in the Advanced page in the Network Scan program's Properties screen.
I cannot find the scanned image file after scanning.	<ul style="list-style-type: none"> • Check if the scanned file's application is on your computer. • Check Send image immediately to the specified folder using an associated default application in the Advanced page in the Network Scan program's Properties screen to open the scanned image immediately after scanning.
I forgot my ID and PIN.	Check your ID and PIN in the Server page in the Network Scan program's Properties screen.
I cannot view the Help file.	To view the Help file, you need to have Internet Explorer 4 service pack 2 or above.
I cannot use the Samsung Network Scan Manager .	Check your operating system. Supporting operating systems are Windows 98/Me/2000/XP/2003/vista.

Common Windows problems

Condition	Suggested solutions
"File in Use" message appears during installation.	Exit all software applications. Remove all software from the StartUp Group, then restart Windows. Reinstall the printer driver.
"General Protection Fault", "Exception OE", "Spool32", or "Illegal Operation" messages appear.	Close all other applications, reboot Windows and try printing again.
"Fail To Print", "A printer timeout error occurred." messages appear.	These messages may appear during printing. Just keep waiting until the machine finishes printing. If the message appears in standby mode or after printing has been completed, check the connection and/or whether an error has occurred.



Note

Refer to Microsoft Windows 98/Me/2000/XP/2003/Vista User's Guide that came with your PC for further information on Windows error messages.

Common Macintosh problems

Condition	Suggested solutions
The printer does not print PDF file correctly. Some parts of graphics, text, or illustrations are missing.	<p>Incompatibility between the PDF file and the Acrobat products:</p> <p>Printing the PDF file as an image may solve this problem. Turn on Print As Image from the Acrobat printing options.</p> <p>Note: It will take longer to print when you print a PDF file as an image.</p>
The document has printed, but the print job has not disappeared from the spooler in Mac OS 10.3.2.	Update your Mac OS to OS 10.3.3. or higher.
Some letters are not displayed normally during the cover sheet printing.	<p>This problem is caused because Mac OS cannot find the font during the cover page printing.</p> <p>Alphanumeric characters, in the Billing Info field, are only allowed for printing on the cover page. Other characters will be broken on the printout.</p>

Common Linux problems

Problem	Possible cause and solutions
The machine does not print.	<ul style="list-style-type: none"> • Check if the printer driver is installed in your system. Open Unified Driver configurator and switch to the Printers tab in Printers configuration window to look at the list of available printers. Make sure that your machine is displayed on the list. If not, please, invoke Add new printer wizard to set up your device. • Check if the printer has started. Open Printers configuration and select your machine on the printers list. Look at the description in the Selected printer pane. If its status contains "(stopped)" string, please, press the Start button. After that normal operation of the printer should be restored. The "stopped" status might be activated when some problems in printing occurred. For instance, this could be an attempt to print a document when a port is claimed by a scanning application. • Check if the port is not busy. Since functional components of MFP (printer and scanner) share the same I/O interface (port), the situation of simultaneous access of different "consumer" applications to the same port are possible. To avoid possible conflicts, only one of them at a time is allowed to gain control over the device. The other "consumer" will encounter "device busy" response. You should open ports configuration and select the port assigned to your printer. In the Selected port pane you can see if the port is occupied by some other application. If this is the case, you should wait for completion of the current job or should press Release port button, if you are sure that the present owner is not functioning properly. • Check if your application has special print option such as "-oraw". If "-oraw" is specified in the command line parameter then remove it to print properly. For Gimp front-end, select "print" -> "Setup printer" and edit command line parameter in the command item.

Problem	Possible cause and solutions
Some color images come out all black.	This is a known bug in Ghostscript (until GNU Ghostscript version 7.05) when the base color space of the document is indexed color space and it is converted through CIE color space. Because Postscript uses CIE color space for Color Matching System, you should upgrade Ghostscript on your system to at least GNU Ghostscript version 7.06 or later. You can find recent Ghostscript versions at www.ghostscript.com .
The machine does not print whole pages and its output is half page printed.	It is a known problem that occurs when a color printer is used on version 8.51 or earlier of Ghostscript, 64-bit Linux OS, and reported to bugs.ghostscript.com as Ghostscript Bug 688252. The problem is solved in AFPL Ghostscript v. 8.52 or above. Download the latest version of AFPL Ghostscript from http://sourceforge.net/projects/ghostscript/ and install it to solve this problem.
Some color images come out in unexpected color.	This is a known bug in Ghostscript (until GNU Ghostscript version 7.xx) when the base color space of the document is indexed RGB color space and it is converted through CIE color space. Because Postscript uses CIE color space for Color Matching System, you should upgrade Ghostscript on your system to at least GNU Ghostscript version 8.xx or later. You can find recent Ghostscript versions at www.ghostscript.com .

Problem	Possible cause and solutions
<p>The machine does not appear on the scanners list.</p>	<ul style="list-style-type: none"> • Check if your machine is attached to your computer. Make sure that it is connected properly via the USB port and is turned on. • Check if the scanner driver for your machine is installed in your system. Open Unified Driver configurator, switch to Scanners configuration, then press Drivers. Make sure that driver with a name corresponding to your machine's name is listed in the window. Check if the port is not busy. Since functional components of MFP (printer and scanner) share the same I/O interface (port), the situation of simultaneous access of different “consumer” application to the same port is possible. To avoid possible conflicts, only one of them at a time is allowed to gain control over the device. The other “consumer” will encounter “device busy” response. This can usually happen while starting scan procedure, and appropriate message box appears. • To identify the source of the problem, you should open ports configuration and select the port assigned to your scanner. port's symbol /dev/mfp0 corresponds to LP:0 designation displayed in the scanners' options, /dev/mfp1 relates to LP:1 and so on. USB ports start at /dev/mfp4, so scanner on USB:0 relates to /dev/mfp4 respectively and so forth sequentially. In the Selected port pane you can see if the port is occupied by some other application. If this is the case, you should wait for completion of the current job or you should press Release port button, if you are sure that the present port's owner is not functioning properly.

Problem	Possible cause and solutions
<p>The machine does not scan.</p>	<ul style="list-style-type: none"> • Check if a document is loaded into the machine. • Check if your machine is connected to the computer. Make sure if it is connected properly if an I/O error is reported while scanning. • Check if the port is not busy. Since functional components of MFP (printer and scanner) share the same I/O interface (port), the situation of simultaneous access of different “consumer” application to the same port is possible. To avoid possible conflicts, only one of them at a time is allowed to gain control over the device. The other “consumer” will encounter “device busy” response. This can usually happen while starting scan procedure, and appropriate message box will be displayed. To identify the source of the problem, you should open ports configuration and select the port assigned to your scanner. port's symbol /dev/mfp0 corresponds to LP:0 designation displayed in the scanners' options, /dev/mfp1 relates to LP:1 and so on. USB ports start at /dev/mfp4, so scanner on USB:0 relates to /dev/mfp4 respectively and so forth sequentially. In the Selected port pane you can see if the port is occupied by some other application. If this is the case, you should wait for completion of the current job or should press the Release port button, if you are sure that the present port's owner is not functioning properly.
<p>I cannot scan via Gimp Front-end.</p>	<ul style="list-style-type: none"> • Check if Gimp Front-end has “Xsane: Device dialog.” on the “Acquire” menu. If not, you should install Xsane plug-in for Gimp on the your computer. You can find Xsane plug-in package for Gimp on Linux distribution CD or Gimp home page. For the detail information, refer to the Help for Linux distribution CD or Gimp Front-end application. If you wish to use other kind of scan application, refer to the Help for application.

Problem	Possible cause and solutions
I encounter error "Cannot open port device file" when printing a document.	Please avoid changing the print job parameters (via LPR GUI, for example) while a print job is in progress. Known versions of CUPS server break the print job whenever print options are changed and then try to restart the job from the beginning. Since Unified Linux Driver locks port while printing, the abrupt termination of the driver keeps the port locked and therefore unavailable for subsequent print jobs. If this situation occurred, please, try to release the port.
When printing a document over the network in SuSE 9.2, the machine does not print.	The CUPS (Common Unix Printing System) version distributed with SuSE Linux 9.2 (cups-1.1.21) has a problem with ipp (Internet Printing Protocol) printing. Use the socket printing instead of ipp or install later version of CUPS (cups-1.1.22 or higher).

12 Ordering supplies

This chapter provides information on purchasing supplies for your machine.

- **Supplies**
- **How to purchase**

How to purchase

To order Samsung-authorized supplies, contact your local Samsung dealer or the retailer where you purchased your machine, or visit www.samsungprinter.com and select your country/region for information on calling for technical support.

Supplies

When the toner runs out or, the life span of the supplies expires you can order the following types of toner cartridges and supplies for your machine:

Type	Yield ^a	Part number
Black toner cartridge	Approx. 2,000 pages	CLP-K300A
Cyan toner cartridge	Approx. 1,000 pages	CLP-C300A
Magenta toner cartridge	Approx. 1,000 pages	CLP-M300A
Yellow toner cartridge	Approx. 1,000 pages	CLP-Y300A
Imaging unit	Approx. 20,000 black pages or 50,000 images	CLP-R300A
Waste toner container	Approx. 5,000 images ^b (1,250 color pages)	CLP-W300A

a. Average A4-/letter sized page count based on 5% coverage of individual colors on each page. Usage conditions and print patterns may cause results to vary.

b. Image counts based on one color on each page. If you print documents in full color(Cyan, Magenta, Yellow, Black), the life of this item will be reduced by 25%.



Caution

When you purchase a new print cartridge or supplies, you must purchase them in the same country you have purchased your machine. Otherwise, the print cartridge or supplies will be incompatible with your machine since the configuration of the print cartridge or supplies vary depending on the countries.

13 Specifications

This chapter includes:

- **General specifications**
- **Printer specifications**
- **Scanner and copier specifications**

General specifications

Item	Description
Paper input capacity	<ul style="list-style-type: none"> • Tray 150 multi-pages for plain paper 75 g/m² (20 lb bond) • Manual feeder 1 page for plain paper 75 g/m² (20 lb bond) For details about paper input capacity, see 5.5 page
Paper output capacity	Face down: 100 sheets 75 g/m ² (20 lb bond)
Power rating	AC 110 - 127 V or AC 220 - 240 V See the Rating label on the machine for the correct voltage, frequency (hertz) and type of current for your machine.
Power consumption	Average: 350 W Power save mode: Less than 30 W
Noise level ^a	Standby mode: Less than 35 dBA Printing: Less than 49 dBA Copying mode: Less than 52 dBA
Warm-up time	Less than 35 seconds (from sleep mode)
Operating environment	Temperature: 10° C to 32.5° C (59° F to 90.5° F) Humidity: 30% to 80% RH
Display	16 characters x 2 lines
Toner cartridge life ^b	Black Approx. 2,000 pages at 5% Coverage (Shipped with 1,500 pages Starter toner cartridge)
	Color Approx. 1,000 pages at 5% coverage (Shipped with 700 pages Starter toner cartridge)
Memory	128 MB (Non extendable)
External dimension (W x D x H)	413.06 x 353.20 x 333.43 mm (16.26 x 13.91 x 13.13 inches)
Weight	20.7 Kg (45.64 lbs) (including consumables)

Item	Description
Package weight	Paper: 3 Kg (6.61 lbs), Plastic: 0.6 Kg (1.32 lbs)
Duty cycle	Monthly print: Up to 24,200 images ^c
Fusing temperature	180° C (356° F)

a. Sound Pressure Level, ISO 7779

b. The number of pages may be affected by operating environment, printing interval, media type, and media size.

c. Image counts based on one color on each page. If you print documents in full color(Cyan, Magenta, Yellow, Black), the life of this item will be reduced by 25%.

Printer specifications

Item	Description
Printing method	Laser Beam Printing
Printing speed ^a	Black & White Up to 16 ppm in A4 (17 ppm in Letter)
	Color Up to 4 ppm in A4 or Letter
First print out time	Black & White From ready: Less than 14 seconds From coldboot: Less than 45 seconds
	Color From ready: Less than 26 seconds From coldboot: Less than 57 seconds
Print resolution	Up to 2,400 x 600 dpi effective output
Printer language	SPL-C (Samsung Printer Language Color)
OS Compatibility ^b	Windows 98/Me/2000/XP/2003/Vista Various Linux OS (USB only) Macintosh 10.3 ~ 10.4
Interface	High Speed USB 2.0 Ethernet 10/100 Base TX (Embedded type)

a. Print speed will be affected by operating system used, computing performance, application software, connecting method, media type, media size, and job complexity.

b. Please visit www.samsungprinter.com to download the latest software version.

Scanner and copier specifications

Item	Description	
Compatibility	TWAIN standard / WIA standard	
Scanning method	Color CIS	
Resolution	Optical: Up to 600 x 1200 dpi (mono and color) Enhanced: 4,800 x 4,800 dpi	
Effective scanning length	Max. 289 mm (11.4 inches)	
Effective scanning width	Max. 208 mm (8.2 inches)	
Color bit depth	24 bits	
Mono bit depth	1 bit for Black & White mode 8 bits for Gray mode	
Copy speed ^a	Black & white	Up to 16 cpm in A4 (17 cpm in Letter)
	Color	Up to 4 cpm in A4 or Letter
Copy resolution	<ul style="list-style-type: none"> • Text: Up to 600 x 300 dpi • Text/photo: Up to 600 x 300 dpi • Photo: Up to 600 x 600 dpi for platen 	
Zoom rate	50 to 200% for platen	
Multiple copies	1 to 99 pages	
Grayscale	256 levels	

a. Copy Speed is based on Single Document Multiple Copy.

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Samsung Printer

Software section



SOFTWARE SECTION

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1 Installing Printer Software in Windows

This chapter includes:

- **Installing Printer Software**
- **Reinstalling Printer Software**
- **Removing Printer Software**

Installing Printer Software

You can install the printer software for local printing or network printing. To install the printer software on the computer, perform the appropriate installation procedure depending on the printer in use.


A printer driver is software that lets your computer communicate with your printer. The procedure to install drivers may differ depending on the operating system you are using.

All applications should be closed on your PC before beginning installation.

Installing Software for Local Printing

A local printer is a printer directly attached to your computer using the printer cable supplied with your printer, such as a USB or parallel cable. If your printer is attached to a network, skip this step and go to “Installing Software for Network Printing” on page 7.

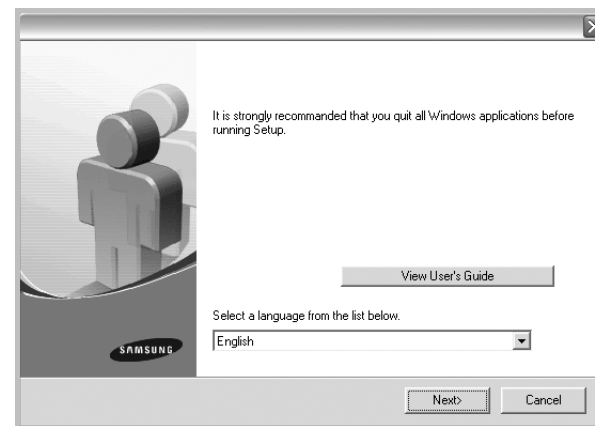
You can install the printer software using the typical or custom method.

NOTE: If the “New Hardware Wizard” window appears during the installation procedure, click  in the upper right corner of the box to close the window, or click **Cancel**.

Typical Installation

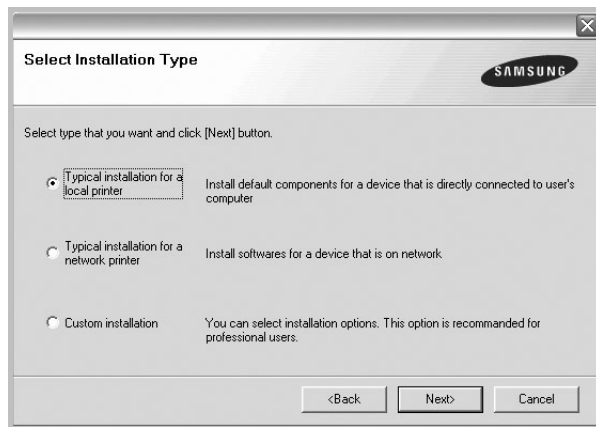
This is recommended for most users. All components necessary for printer operations will be installed.

- 1 Make sure that the printer is connected to your computer and powered on.
- 2 Insert the supplied CD-ROM into your CD-ROM drive. The CD-ROM should automatically run, and an installation window appears. If the installation window does not appear, click **Start** and then **Run**. Type **X:\Setup.exe**, replacing “X” with the letter which represents your drive and click **OK**. If you use Windows Vista, click **Start** → **All programs** → **Accessories** → **Run**, and type **RunX:\Setup.exe**. If the **AutoPlay** window appears in Windows Vista, Click **Run Setup.exe** in **Install or run program** field, and click **Continue** in the **User Account Control** window.

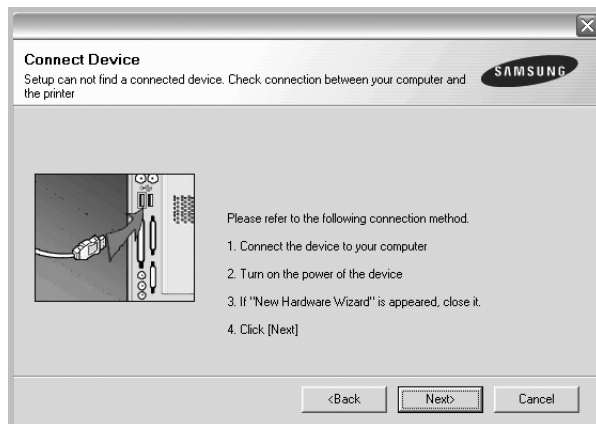


- 3 Click **Next**.
 - If necessary, select a language from the drop-down list.
 - **View User's Guide:** Allows you to view the User's Guide. If your computer doesn't have Adobe Acrobat, click on this option and it will automatically install Adobe Acrobat Reader for you.

- 4 Select **Typical installation for a local printer**. Click **Next**.



NOTE: If your printer is not already connected to the computer, the following window will appear.

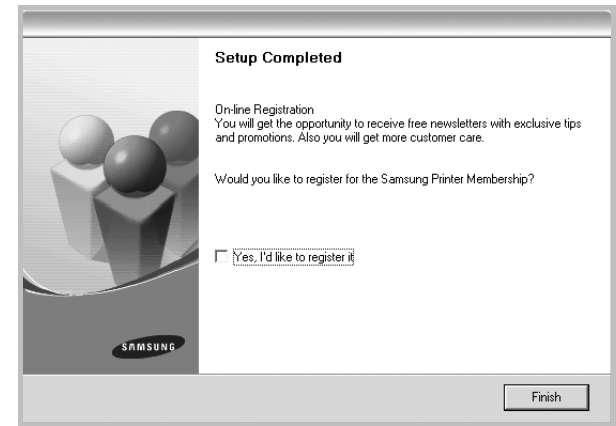


- After connecting the printer, click **Next**.
- If you don't want to connect the printer at this time, click **Next**, and **No** on the following screen. Then the installation will start and a test page will not be printed at the end of the installation.
- **The installation window that appears in this User's Guide may differ depending on the printer and interface in use.**

- 5 After the installation is finished, a window asking you to print a test page appears. If you choose to print a test page, select the checkbox and click **Next**. Otherwise, just click **Next** and skip to step 7.
- 6 If the test page prints out correctly, click **Yes**. If not, click **No** to reprint it.

- 7 To register yourself as a user of Samsung Printers in order to receive information from Samsung, select the checkbox and click **Finish**. You are now sent to the Samsung web site.

Otherwise, just click **Finish**.



NOTE: After setup is complete, if your printer driver doesn't work properly, reinstall the printer driver. See "Reinstalling Printer Software" on page 10.

Custom Installation

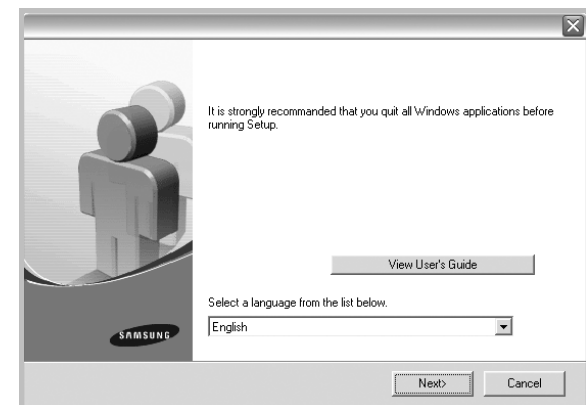
You can choose individual components to install.

- 1 Make sure that the printer is connected to your computer and powered on.
- 2 Insert the supplied CD-ROM into your CD-ROM drive. The CD-ROM should automatically run, and an installation window appears.

If the installation window does not appear, click **Start** and then **Run**. Type **X:\Setup.exe**, replacing "X" with the letter which represents your drive and click **OK**.

If you use Windows Vista, click **Start** → **All programs** → **Accessories** → **Run**, and type **RunX:\Setup.exe**.

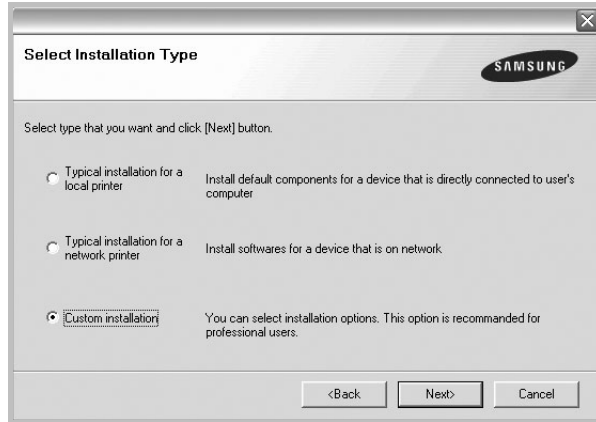
If the **AutoPlay** window appears in Windows Vista, Click **Run Setup.exe** in **Install or run program** field, and click **Continue** in the **User Account Control** window.



3 Click **Next**.

- If necessary, select a language from the drop-down list.
- **View User's Guide:** Allows you to view the User's Guide. If your computer doesn't have Adobe Acrobat, click on this option and it will automatically install Adobe Acrobat Reader for you.

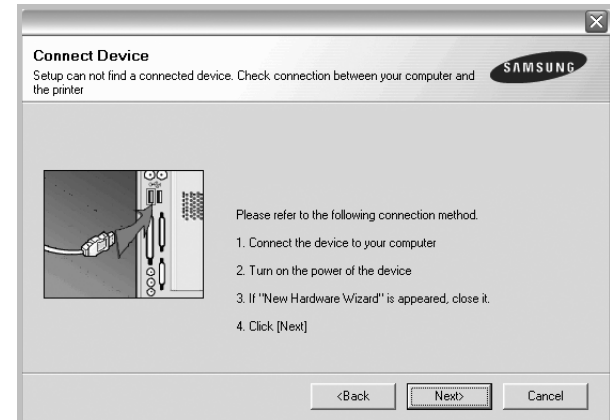
4 Select **Custom installation**. Click **Next**.



5 Select your printer and click **Next**.

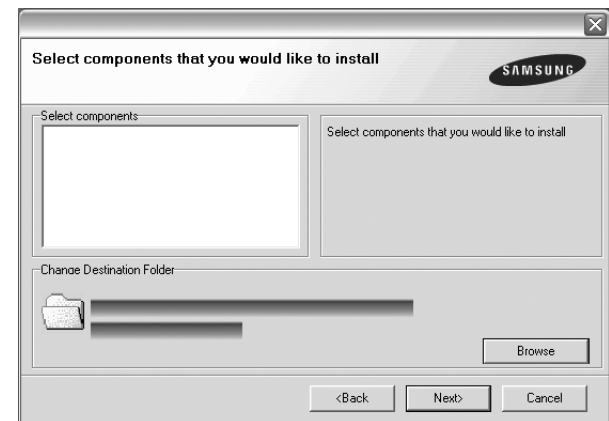


NOTE: If your printer is not already connected to the computer, the following window will appear.



- After connecting the printer, click **Next**.
- If you don't want to connect the printer at this time, click **Next**, and **No** on the following screen. Then the installation will start and a test page will not be printed at the end of the installation.
- *The installation window that appears in this User's Guide may differ depending on the printer and interface in use.*

6 Select the components to be installed and click **Next**.

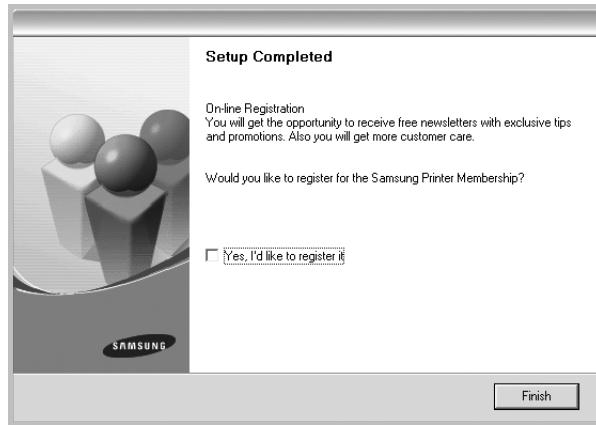


NOTE: You can change the desired installation folder by clicking [**Browse**].

- 7** After the installation is finished, a window asking you to print a test page appears. If you choose to print a test page, select the checkbox and click **Next**. Otherwise, just click **Next** and skip to step 9.
- 8** If the test page prints out correctly, click **Yes**. If not, click **No** to reprint it.

- 9 To register yourself as a user of Samsung Printers in order to receive information from Samsung, select the checkbox and click **Finish**. You are now sent to the Samsung web site.

Otherwise, just click **Finish**.



Installing Software for Network Printing

When you connect your printer to a network, you must first configure the TCP/IP settings for the printer. After you have assigned and verified the TCP/IP settings, you are ready to install the software on each computer on the network.

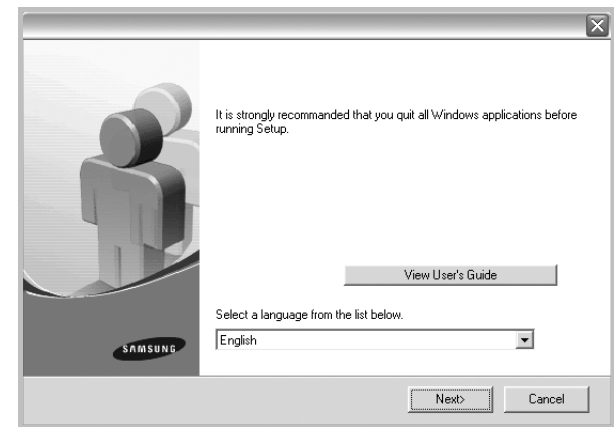
You can install the printer software using the typical or custom method.

Typical Installation

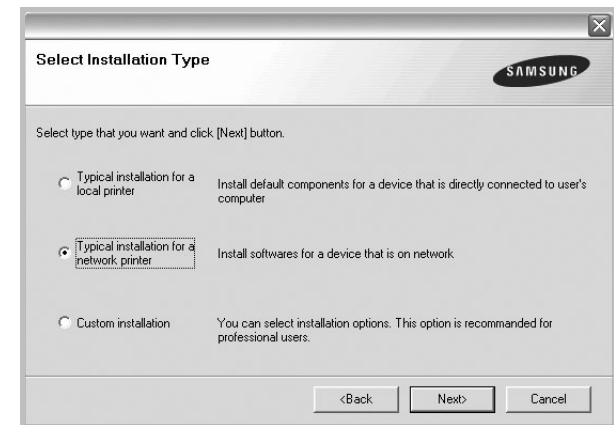
This is recommended for most users. All components necessary for printer operations will be installed.

- 1 Make sure that the printer is connected to your network and powered on. For details about connecting to the network, see the supplied printer's User's Guide.
- 2 Insert the supplied CD-ROM into your CD-ROM drive. The CD-ROM should automatically run, and an installation window appears. If the installation window does not appear, click **Start** and then **Run**. Type **X:\Setup.exe**, replacing "X" with the letter which represents your drive and click **OK**. If you use Windows Vista, click **Start** → **All programs** → **Accessories** → **Run**, and type **RunX:\Setup.exe**. If the **AutoPlay** window appears in Windows Vista, Click

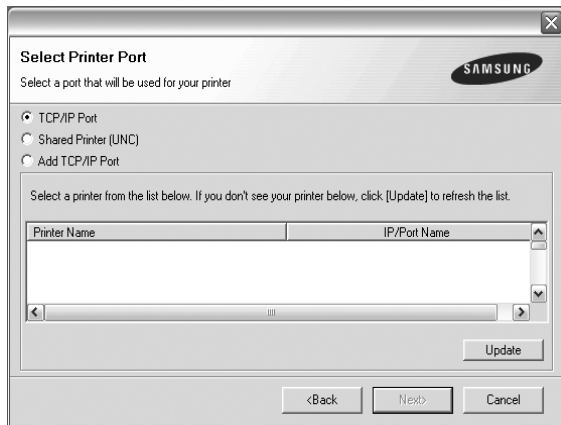
Run **Setup.exe** in **Install or run program** field, and click **Continue** in the **User Account Control** window.



- 3 Click **Next**.
 - If necessary, select a language from the drop-down list.
 - **View User's Guide:** Allows you to view the User's Guide. If your computer doesn't have Adobe Acrobat, click on this option and it will automatically install Adobe Acrobat Reader for you.
- 4 Select **Typical installation for a network printer**. Click **Next**.



- 5 The list of printers available on the network appears. Select the printer you want to install from the list and then click **Next**.



- If you do not see your printer on the list, click **Update** to refresh the list, or select **Add TCP/IP Port** to add your printer to the network. To add the printer to the network, enter the port name and the IP address for the printer.

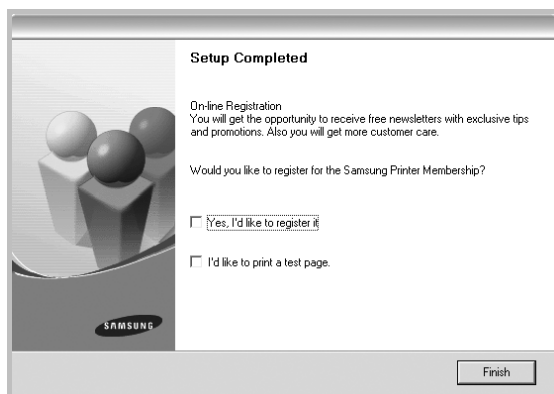
To verify your printer's IP address or the MAC address, print a Network Configuration page.

- To find a shared network printer (UNC Path), select **Shared Printer [UNC]** and enter the shared name manually or find a shared printer by clicking the **Browse** button.

NOTE: If you cannot find your machine in network, please turn off the firewall and click **Update**.

- 6 After the installation is finished, a window appears asking you to print a test page and to register yourself as a user of Samsung Printers in order to receive information from Samsung. If you so desire, select the corresponding checkbox(es) and click **Finish**.

Otherwise, just click **Finish**.

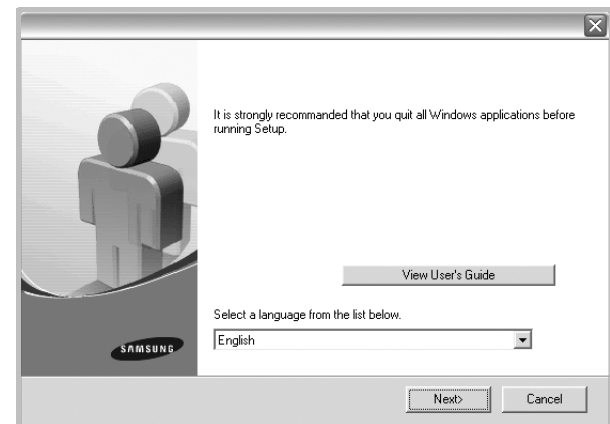


NOTE: After setup is complete, if your printer driver doesn't work properly, reinstall the printer driver. See "Reinstalling Printer Software" on page 10.

Custom Installation

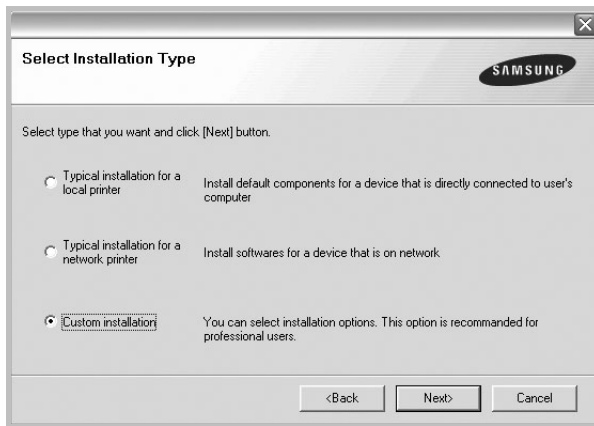
You can choose individual components to install and set a specific IP address.

- 1 Make sure that the printer is connected to your network and powered on. For details about connecting to the network, see the supplied printer's User's Guide.
- 2 Insert the supplied CD-ROM into your CD-ROM drive. The CD-ROM should automatically run, and an installation window appears. If the installation window does not appear, click **Start** and then **Run**. Type **X:\Setup.exe**, replacing "X" with the letter which represents your drive and click **OK**. If you use Windows Vista, click **Start** → **All programs** → **Accessories** → **Run**, and type **RunX:\Setup.exe**. If the **AutoPlay** window appears in Windows Vista, Click **Run Setup.exe** in **Install or run program** field, and click **Continue** in the **User Account Control** window.

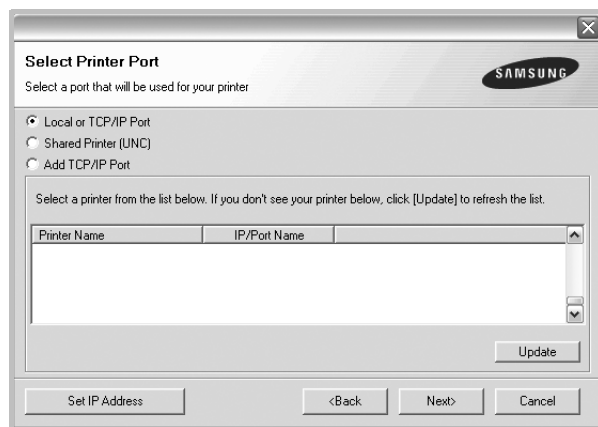


- 3 Click **Next**.
 - If necessary, select a language from the drop-down list.
 - **View User's Guide:** Allows you to view the User's Guide. If your computer doesn't have Adobe Acrobat, click on this option and it will automatically install Adobe Acrobat Reader for you.

4 Select **Custom installation**. Click **Next**.



5 The list of printers available on the network appears. Select the printer you want to install from the list and then click **Next**.



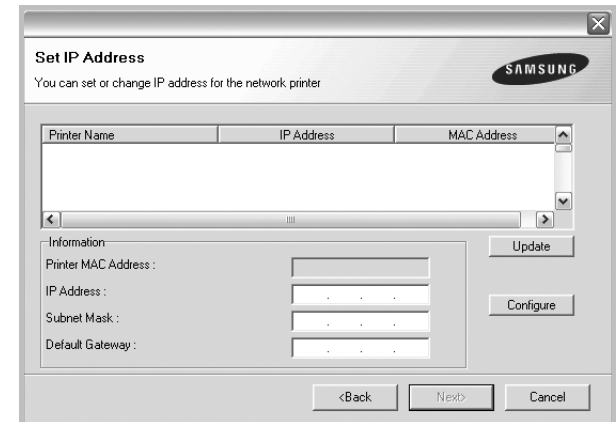
- If you do not see your printer on the list, click **Update** to refresh the list, or select **Add TCP/IP Port** to add your printer to the network. To add the printer to the network, enter the port name and the IP address for the printer.

To verify your printer's IP address or the MAC address, print a Network Configuration page.

- To find a shared network printer (UNC Path), select **Shared Printer [UNC]** and enter the shared name manually or find a shared printer by clicking the **Browse** button.

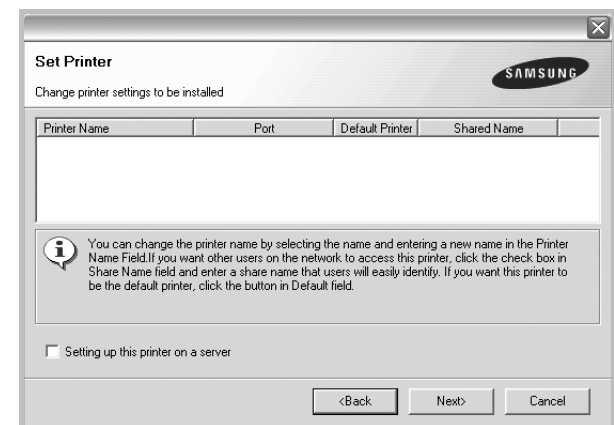
NOTE: If you cannot find your machine in network, please turn off the firewall and click **Update**.

TIP: If you want to set a specific IP address on a specific network printer, click the **Set IP Address** button. The Set IP Address window appears. Do as follows:



- a. Select a printer to be set with a specific IP address from the list.
- b. Configure an IP address, subnet mask, and gateway for the printer manually and click **Configure** to set the specific IP address for the network printer.
- c. Click **Next**.

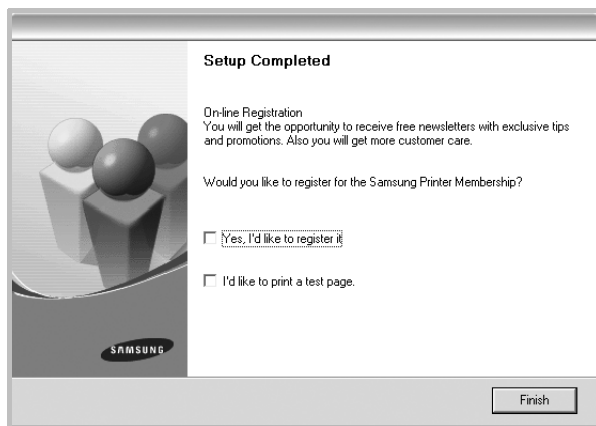
6 Select the components to be installed. After selecting the components, the following window appears. You can also change the printer name, set the printer to be shared on the network, set the printer as the default printer, and change the port name of each printer. Click **Next**.



To install this software on a server, select the **Setting up this printer on a server** checkbox.

7 After the installation is finished, a window appears asking you to print a test page and to register yourself as a user of Samsung Printers in order to receive information from Samsung. If you so desire, select the corresponding checkbox(es) and click **Finish**.

Otherwise, just click **Finish**.

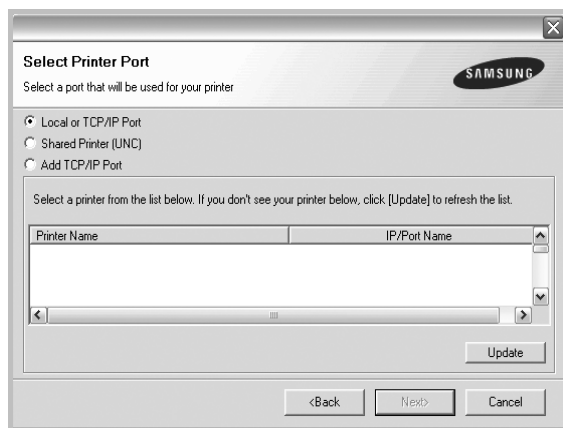


NOTE: After setup is complete, if your printer driver doesn't work properly, reinstall the printer driver. See "Reinstalling Printer Software" on page 10.

Reinstalling Printer Software

You can reinstall the software if installation fails.

- 1 Start Windows.
- 2 From the **Start** menu select **Programs** or **All Programs** → **your printer driver name** → **Maintenance**.
- 3 Select **Repair** and click **Next**.
- 4 The list of printers available on the network appears. Select the printer you want to install from the list and then click **Next**.



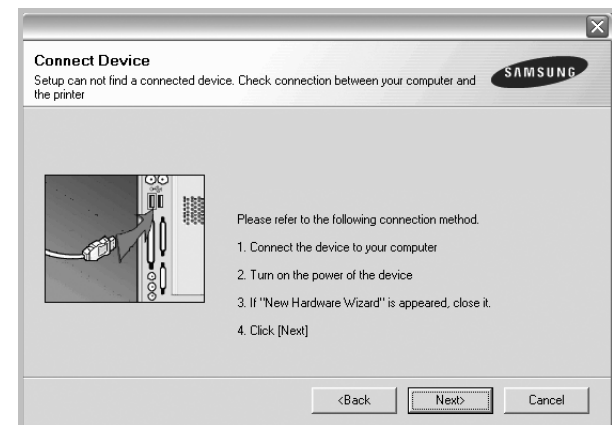
- If you do not see your printer on the list, click **Update** to refresh the list, or select **Add TCP/IP Port** to add your printer to the network. To add the printer to the

network, enter the port name and the IP address for the printer.

- To find a shared network printer (UNC Path), select **Shared Printer [UNC]** and enter the shared name manually or find a shared printer by clicking the **Browse** button.

You will see a component list so that you can reinstall any item individually.

NOTE: If your printer is not already connected to the computer, the following window will appear.



- After connecting the printer, click **Next**.
- If you don't want to connect the printer at this time, click **Next**, and **No** on the following screen. Then the installation will start and a test page will not be printed at the end of the installation.
- *The reinstallation window that appears in this User's Guide may differ depending on the printer and interface in use.*

- 5 Select the components you want to reinstall and click **Next**.

If you installed the printer software for local printing and you select **your printer driver name**, the window asking you to print a test page appears. Do as follows:

- a. To print a test page, select the check box and click **Next**.
- b. If the test page prints out correctly, click **Yes**.
If it doesn't, click **No** to reprint it.

- 6 When the reinstallation is done, click **Finish**.

Removing Printer Software

- 1 Start Windows.
- 2 From the **Start** menu select **Programs** or **All Programs** → **your printer driver name** → **Maintenance**.
- 3 Select **Remove** and click **Next**.
You will see a component list so that you can remove any item individually.
- 4 Select the components you want to remove and then click **Next**.
- 5 When your computer asks you to confirm your selection, click **Yes**.
The selected driver and all of its components are removed from your computer.
- 6 After the software is removed, click **Finish**.

2 Basic Printing

This chapter explains the printing options and common printing tasks in Windows.

This chapter includes:

- **Printing a Document**
- **Printing to a file (PRN)**
- **Printer Settings**
 - **Layout Tab**
 - **Paper Tab**
 - **Graphics Tab**
 - **Extras Tab**
 - **About Tab**
 - **Printer Tab**
 - **Using a Favorite Setting**
 - **Using Help**

Printing a Document

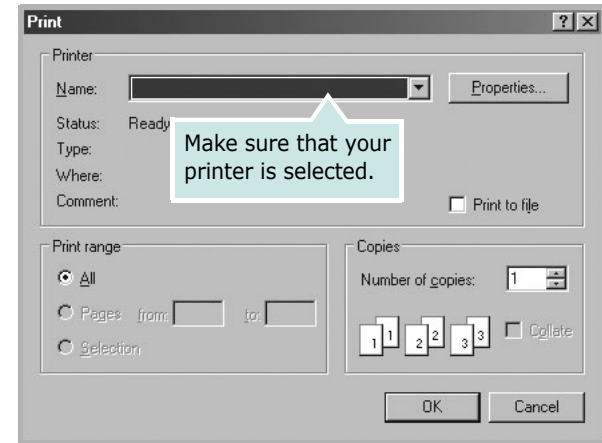
NOTES:

- Your printer driver **Properties** window that appears in this User's Guide may differ depending on the printer in use. However the composition of the printer properties window is similar.
 - **Check the Operating System(s) that are compatible with your printer. Please refer to the OS Compatibility section of Printer Specifications in your Printer User's Guide.**
 - If you need to know the exact name of your printer, you can check the supplied CD-ROM.
-

The following procedure describes the general steps required for printing from various Windows applications. The exact steps for printing a document may vary depending on the application program you are using. Refer to the User's Guide of your software application for the exact printing procedure.

- 1 Open the document you want to print.
- 2 Select **Print** from the **File** menu. The Print window is displayed. It may look slightly different depending on your application.

The basic print settings are selected within the Print window. These settings include the number of copies and print range.



- 3 Select **your printer driver** from the **Name** drop-down list.

To take advantage of the printer features provided by your printer driver, click **Properties** or **Preferences** in the application's Print window. For details, see "Printer Settings" on page 13.

If you see **Setup, Printer, or Options** in your Print window, click it instead. Then click **Properties** on the next screen.

Click **OK** to close the printer properties window.

- 4 To start the print job, click **OK** or **Print** in the Print window.

Printing to a file (PRN)

You will sometimes need to save the print data as a file for your purpose.

To create a file:

- 1 Check the **Print to file** box at the **Print** window.
- 2 Select the folder and assign a name of the file and then click OK.

Printer Settings

You can use the printer properties window, which allows you to access all of the printer options you need when using your printer. When the printer properties are displayed, you can review and change the settings needed for your print job.

Your printer properties window may differ, depending on your operating system. This Software User's Guide shows the Properties window for Windows XP.

Your printer driver **Properties** window that appears in this User's Guide may differ depending on the printer in use.

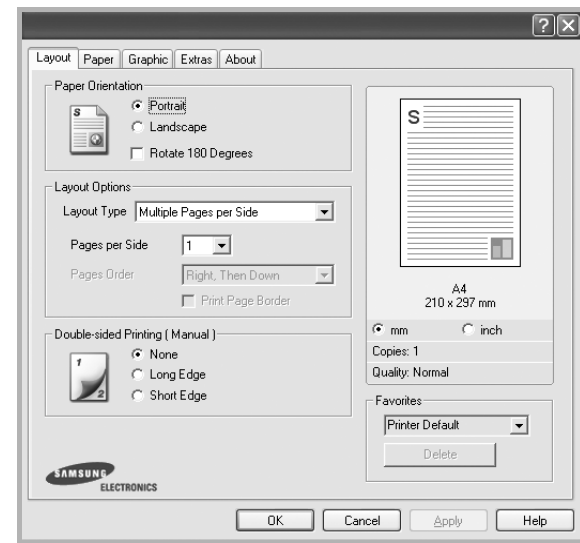
If you access printer properties through the Printers folder, you can view additional Windows-based tabs (refer to your Windows User's Guide) and the Printer tab (see "Printer Tab" on page 16).

NOTES:

- Most Windows applications will override settings you specify in the printer driver. Change all print settings available in the software application first, and change any remaining settings using the printer driver.
- The settings you change remain in effect only while you are using the current program. **To make your changes permanent**, make them in the Printers folder.
- The following procedure is for Windows XP. For other Windows OS, refer to the corresponding Windows User's Guide or online help.
 1. Click the Windows **Start** button.
 2. Select **Printers and Faxes**.
 3. Select **your printer driver icon**.
 4. Right-click on the printer driver icon and select **Printing Preferences**.
 5. Change the settings on each tab, click OK.

Layout Tab

The **Layout** tab provides options to adjust how the document appears on the printed page. The **Layout Options** includes **Multiple Pages per Side, Poster Printing and Booklet Printing**. See "Printing a Document" on page 12 for more information on accessing printer properties.



Paper Orientation

Paper Orientation allows you to select the direction in which information is printed on a page.

- **Portrait** prints across the width of the page, letter style.
- **Landscape** prints across the length of the page, spreadsheet style.
- **Rotate 180 Degrees** allows you to rotate the page, 180 degrees.



▲ Portrait



▲ Landscape

Layout Options

Layout Options allows you to select advanced printing options. You can choose **Multiple Pages per Side, Poster Printing and Booklet Printing**.

- For details, see "Printing Multiple Pages on One Sheet of Paper (N-Up Printing)" on page 18.
- For details, see "Printing Posters" on page 19.
- For details, see "Printing Booklets" on page 19.

Double-sided Printing

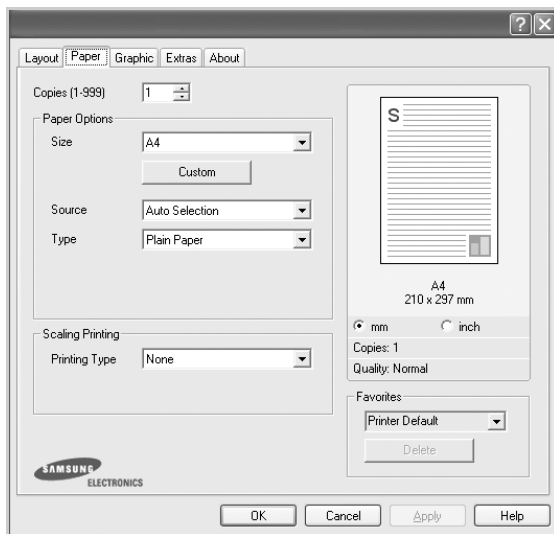
Double-sided Printing allows you to print on both sides of paper. **If this option does not appear, your printer does not have this feature.**

- For details, see "Printing on Both Sides of Paper" on page 20.

Paper Tab

Use the following options to set the basic paper handling specifications when you access the printer properties. See "Printing a Document" on page 12 for more information on accessing printer properties.

Click the **Paper** tab to access various paper properties.



Copies

Copies allows you to choose the number of copies to be printed. You can select 1 to 999 copies.

Size

Size allows you to set the size of paper you loaded in the tray. If the required size is not listed in the **Size** box, click **Custom**. When the **Custom Paper Setting** window appears, set the paper size and click **OK**. The setting appears in the list so that you can select it.

Source

Make sure that **Source** is set to the corresponding paper tray. Use **Manual Feeder** when printing on special materials like envelopes and transparencies. You have to load one sheet at a time into the Manual Tray or Multi-Purpose Tray. If the paper source is set to **Auto Selection**, the printer automatically picks up print material in the following tray order: Manual Tray or Multi-Purpose Tray, Tray n.

Type

Set **Type** to correspond to the paper loaded in the tray from which you want to print. This will let you get the best quality printout. If not, print quality may not be achieved as you want.

Thin: Less than 19 lb (70 g/m²) thin paper.

Thick: 24 lb to 32 lb (90~120 g/m²) thick paper.

Cotton: 20 lb to 24 lb (75~90 g/m²) cotton paper such as Gilbert 25 % and Gilbert 100 %.

Plain Paper: Normal plain paper. Select this type if your printer is monochrome and printing on the 16 lb (60 g/m²) cotton paper.

Recycled Paper: 20 lb to 24 lb (75~90 g/m²) recycled paper.

Color Paper: 20 lb to 24 lb (75~90 g/m²) color-backgrounded paper.

Scaling Printing

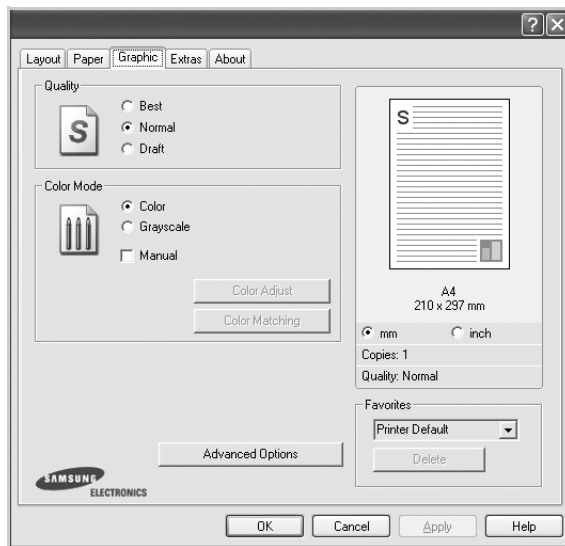
Scaling Printing allows you to automatically or manually scale your print job on a page. You can choose from **None**, **Reduce/Enlarge**, and **Fit to Page**.

- For details, see "Printing a Reduced or Enlarged Document" on page 20.
- For details, see "Fitting Your Document to a Selected Paper Size" on page 20.

Graphics Tab

Use the following Graphic options to adjust the print quality for your specific printing needs. See “Printing a Document” on page 12 for more information on accessing printer properties.

Click the **Graphic** tab to display the properties shown below..



Quality

The Resolution options you can select may vary depending on your printer model. The higher the setting, the sharper the clarity of printed characters and graphics. The higher setting also may increase the time it takes to print a document.

Color Mode

You can choose color options. Setting to **Color** typically produces the best possible print quality for color documents. If you want to print a color document in grayscale, select **Grayscale**. If you want to adjust the color options manually, select **Manual** and click the **Color Adjust** or **Color Matching** button.

- **Color Adjust** : You can adjust the appearance of images by changing the settings in the **Levels** option.
- **Color Matching** : You can adjust the appearance of images by changing the settings in the **Settings** option.

Advanced Options

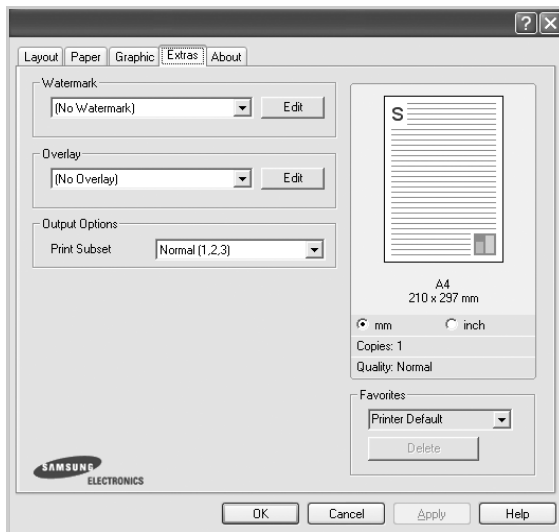
You can set advanced settings by clicking the **Advanced Options** button.

- **Raster Compression**: This option determines the compression level of images for transferring data from a computer to a printer. If you set this option to Maximum, the printing speed will be up, but the printing quality will be low.
- **Print All Text To Black**: When the **Print All Text To Black** option is checked, all text in your document prints solid black, regardless of the color it appears on the screen.
- **Print All Text To Darken**: When the **Print All Text To Darken** option is checked, all text in your document is allowed to print darker than on a normal document. *Some printers do not support this feature.*

Extras Tab

You can select output options for your document. See “Printing a Document” on page 12 for more information about accessing the printer properties.

Click the **Extras** tab to access the following feature:



Watermark

You can create a background text image to be printed on each page of your document. For details, see “Using Watermarks” on page 21.

Overlay

Overlays are often used to take the place of preprinted forms and letterhead paper. For details, see “Using Overlays” on page 22.

Output Options

- **Print Subset:** You can set the sequence in which the pages print. Select the print order from the drop-down list.
 - **Normal (1,2,3):** Your printer prints all pages from the first page to the last page.
 - **Reverse All Pages (3,2,1):** Your printer prints all pages from the last page to the first page.
 - **Print Odd Pages:** Your printer prints only the odd numbered pages of the document.
 - **Print Even Pages:** Your printer prints only the even numbered pages of the document.

About Tab

Use the **About** tab to display the copyright notice and the version number of the driver. If you have an Internet browser, you can connect to the Internet by clicking on the web site icon. See “Printing a Document” on page 12 for more information about accessing printer properties.

Printer Tab

If you access printer properties through the **Printers** folder, you can view the **Printer** tab. You can set the printer configuration.

The following procedure is for Windows XP. For other Windows OS, refer to the corresponding Windows User's Guide or online help.

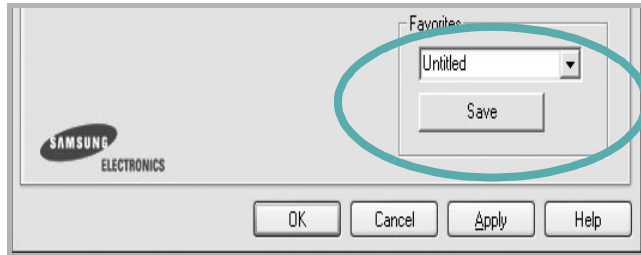
- 1 Click the Windows **Start** menu.
- 2 Select **Printers and Faxes**.
- 3 Select **your printer driver** icon.
- 4 Right-click on the printer driver icon and select **Properties**.
- 5 Click the **Printer** tab and set the options.

Using a Favorite Setting

The **Favorites** option, which is visible on each properties tab, allows you to save the current properties settings for future use.

To save a **Favorites** item:

- 1 Change the settings as needed on each tab.
- 2 Enter a name for the item in the **Favorites** input box.



- 3 Click **Save**.

When you save **Favorites**, all current driver settings are saved.

To use a saved setting, select the item from the **Favorites** drop down list. The printer is now set to print according to the Favorites setting you selected.

To delete a Favorites item, select it from the list and click **Delete**.

You can also restore the printer driver's default settings by selecting **Printer Default** from the list.

Using Help

Your printer has a help screen that can be activated by clicking the **Help** button in the printer properties window. These help screens give detailed information about the printer features provided by the printer driver.

You can also click **?** from the upper right corner of the window, and then click on any setting.

3 Advanced Printing

This chapter explains printing options and advanced printing tasks.

NOTE:

- Your printer driver **Properties** window that appears in this User's Guide may differ depending on the printer in use. However the composition of the printer properties window is similar.
 - If you need to know the exact name of your printer, you can check the supplied CD-ROM.
-

This chapter includes:

- **Printing Multiple Pages on One Sheet of Paper (N-Up Printing)**
- **Printing Posters**
- **Printing Booklets**
- **Printing on Both Sides of Paper**
- **Printing a Reduced or Enlarged Document**
- **Fitting Your Document to a Selected Paper Size**
- **Using Watermarks**
- **Using Overlays**

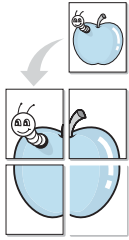
Printing Multiple Pages on One Sheet of Paper (N-Up Printing)



You can select the number of pages to print on a single sheet of paper. To print more than one page per sheet, the pages will be reduced in size and arranged in the order you specify. You can print up to 16 pages on one sheet.

- 1** To change the print settings from your software application, access printer properties. See "Printing a Document" on page 12.
- 2** From the **Layout** tab, choose **Multiple Pages per Side** in the **Layout Type** drop-down list.
- 3** Select the number of pages you want to print per sheet (1, 2, 4, 6, 9, or 16) in the **Pages per Side** drop-down list.
- 4** Select the page order from the **Page Order** drop-down list, if necessary.
Check **Print Page Border** to print a border around each page on the sheet.
- 5** Click the **Paper** tab, select the paper source, size, and type.
- 6** Click **OK** and print the document.

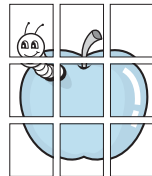
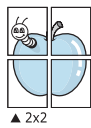
Printing Posters



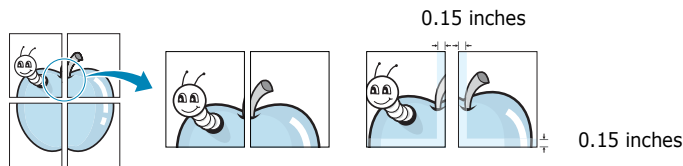
This feature allows you to print a single-page document onto 4, 9, or 16 sheets of paper, for the purpose of pasting the sheets together to form one poster-size document.

- 1 To change the print settings from your software application, access printer properties. See “Printing a Document” on page 12.
- 2 Click the **Layout** tab, select **Poster Printing** in the **Layout Type** drop-down list.
- 3 Configure the poster option:

You can select the page layout from **Poster<2x2>**, **Poster<3x3>**, or **Poster<4x4>**. If you select **Poster<2x2>**, the output will be automatically stretched to cover 4 physical pages.

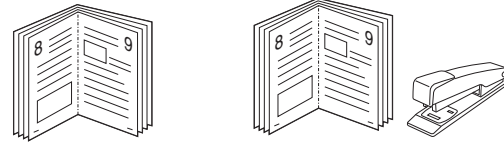


Specify an overlap in millimeters or inches to make it easier to pasting the sheets together.



- 4 Click the **Paper** tab, select the paper source, size, and type.
- 5 Click **OK** and print the document. You can complete the poster by pasting the sheets together.

Printing Booklets



This printer feature allows you to print your document on both sides of the paper and arranges the pages so that the paper can be folded in half after printing to produce a booklet.

- 1 To change the print settings from your software application, access the printer properties. See “Printing a Document” on page 12.
- 2 From the **Layout** tab, choose **Booklet Printing** from the **Type** drop-down list.

NOTE: The **Booklet Printing** option is not available for all the paper size. In order to find out the available paper size for this feature, select the paper size in the **Size** option on the **Paper** tab, then check if the **Booklet Printing** in a **Layout Type** drop-down list on the **Layout** tab is activated.

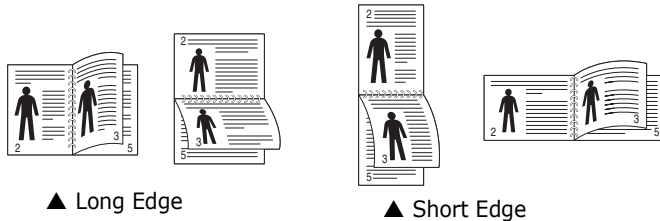
- 3 Click the **Paper** tab, and select the paper source, size, and type.
- 4 Click **OK** and print the document.
- 5 After printing, fold and staple the pages.

Printing on Both Sides of Paper

You can print on both sides of a sheet of paper. Before printing, decide how you want your document oriented.

The options are:

- **None**
- **Long Edge**, which is the conventional layout used in book binding.
- **Short Edge**, which is the type often used with calendars.



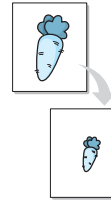
NOTE:

- Do not print on both sides of labels, transparencies, envelopes, or thick paper. Paper jamming and damage to the printer may result.
- To use double-sided printing, you can use only the following paper sizes: A4, Letter, Legal, and Folio, with a weight of 20~24 lbs (75~90 g/m²).

- 1 To change the print settings from your software application, access printer properties. "Printing a Document" on page 12.
- 2 From the **Layout** tab, select the paper orientation.
- 3 From the **Double-sided Printing** section, select the binding option you want.
- 4 Click the **Paper** tab and select the paper source, size, and type.
- 5 Click **OK** and print the document.

NOTE: If your printer does not have a duplex unit, you should complete the printing job manually. The printer prints every other page of the document first. After printing the first side of your job, the Printing Tip window appears. Follow the on-screen instructions to complete the printing job.

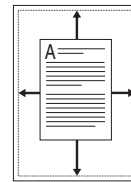
Printing a Reduced or Enlarged Document



You can change the size of a page's content to appear larger or smaller on the printed page.

- 1 To change the print settings from your software application, access printer properties. See "Printing a Document" on page 12.
- 2 From the **Paper** tab, select **Reduce/Enlarge** in the **Printing Type** drop-down list.
- 3 Enter the scaling rate in the **Percentage** input box. You can also click the ▼ or ▲ button.
- 4 Select the paper source, size, and type in **Paper Options**.
- 5 Click **OK** and print the document.

Fitting Your Document to a Selected Paper Size



This printer feature allows you to scale your print job to any selected paper size regardless of the digital document size. This can be useful when you want to check fine details on a small document.

- 1 To change the print settings from your software application, access printer properties. See "Printing a Document" on page 12.
- 2 From the **Paper** tab, select **Fit to Page** in the **Printing Type** drop-down list.
- 3 Select the correct size from the **Output size** drop-down list.
- 4 Select the paper source, size, and type in **Paper Options**.
- 5 Click **OK** and print the document.

Using Watermarks

The Watermark option allows you to print text over an existing document. For example, you may want to have large gray letters reading "DRAFT" or "CONFIDENTIAL" printed diagonally across the first page or all pages of a document.

There are several predefined watermarks that come with the printer, and they can be modified, or you can add new ones to the list.

Using an Existing Watermark

- 1 To change the print settings from your software application, access printer properties. See "Printing a Document" on page 12.
- 2 Click the **Extras** tab, and select the desired watermark from the **Watermark** drop-down list. You will see the selected watermark in the preview image.
- 3 Click **OK** and start printing.

NOTE: The preview image shows how the page will look when it is printed.

Creating a Watermark

- 1 To change the print settings from your software application, access printer properties. See "Printing a Document" on page 12.
- 2 Click the **Extras** tab, and click the **Edit** button in the **Watermark** section. The **Edit Watermarks** window appears.
- 3 Enter a text message in the **Watermark Message** box. You can enter up to 40 characters. The message displays in the preview window.
When the **First Page Only** box is checked, the watermark prints on the first page only.
- 4 Select watermark options.
You can select the font name, style, size, or grayscale level from the **Font Attributes** section and set the angle of the watermark from the **Message Angle** section.
- 5 Click **Add** to add a new watermark to the list.
- 6 When you have finished editing, click **OK** and start printing.

To stop printing the watermark, select **(No Watermark)** from the **Watermark** drop-down list.

Editing a Watermark

- 1 To change the print settings from your software application, access printer properties. See "Printing a Document" on page 12.
- 2 Click the **Extras** tab and click the **Edit** button in the **Watermark** section. The **Edit Watermarks** window appears.
- 3 Select the watermark you want to edit from the **Current Watermarks** list and change the watermark message and options.
- 4 Click **Update** to save the changes.
- 5 Click **OK** until you exit the Print window.

Deleting a Watermark

- 1 To change the print settings from your software application, access printer properties. See "Printing a Document" on page 12.
- 2 From the **Extras** tab, click the **Edit** button in the Watermark section. The **Edit Watermarks** window appears.
- 3 Select the watermark you want to delete from the **Current Watermarks** list and click **Delete**.
- 4 Click **OK** until you exit the Print window.

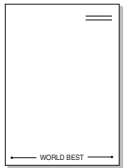
Using Overlays

What is an Overlay?



An overlay is text and/or images stored in the computer hard disk drive (HDD) as a special file format that can be printed on any document. Overlays are often used to take the place of preprinted forms and letterhead paper. Rather than using preprinted letterhead, you can create an overlay containing the exact same information that is currently on your letterhead. To print a letter with your company's letterhead, you do not need to load preprinted letterhead paper in the printer. You need only tell the printer to print the letterhead overlay on your document.

Creating a New Page Overlay



To use a page overlay, you must create a new page overlay containing your logo or image.

- 1 Create or open a document containing text or an image for use in a new page overlay. Position the items exactly as you wish them to appear when printed as an overlay.
- 2 To save the document as an overlay, access printer properties. See "Printing a Document" on page 12.
- 3 Click the **Extras** tab, and click **Edit** button in the **Overlay** section.
- 4 In the Edit Overlay window, click **Create Overlay**.
- 5 In the Create Overlay window, type a name of up to eight characters in the **File name** box. Select the destination path, if necessary. (The default is C:\Formover).
- 6 Click **Save**. The name appears on the **Overlay List** box.
- 7 Click **OK** or **Yes** to finish creating.
The file is not printed. Instead it is stored on your computer hard disk drive.

NOTE: The overlay document size must be the same as the documents you print with the overlay. Do not create an overlay with a watermark.

Using a Page Overlay

After an overlay has been created, it is ready to be printed with your document. To print an overlay with a document:

- 1 Create or open the document you want to print.
- 2 To change the print settings from your software application, access printer properties. See "Printing a Document" on page 12.
- 3 Click the **Extras** tab.
- 4 Select the desired overlay from the **Overlay** drop-down list box.
- 5 If the overlay file you want does not appear in the **Overlay** list, click **Edit** button and **Load Overlay**, and select the overlay file.

If you have stored the overlay file you want to use in an external source, you can also load the file when you access the **Load Overlay** window.

After you select the file, click **Open**. The file appears in the **Overlay List** box and is available for printing. Select the overlay from the **Overlay List** box.

- 6 If necessary, click **Confirm Page Overlay When Printing**. If this box is checked, a message window appears each time you submit a document for printing, asking you to confirm your wish to print an overlay on your document.
If this box is not checked and an overlay has been selected, the overlay automatically prints with your document.
- 7 Click **OK** or **Yes** until printing begins.
The selected overlay downloads with your print job and prints on your document.

NOTE: The resolution of the overlay document must be the same as that of the document you will print with the overlay.

Deleting a Page Overlay

You can delete page overlays that you no longer use.

- 1 In the printer properties window, click the **Extras** tab.
- 2 Click the **Edit** button in the **Overlay** section.
- 3 Select the overlay you want to delete from the **Overlay List** box.
- 4 Click **Delete Overlay**.
- 5 When a confirming message window appears, click **Yes**.
- 6 Click **OK** until you exit the Print window.

4 Sharing the Printer Locally

You can connect the printer directly to a selected computer, which is called “host computer,” on the network.

The following procedure is for Windows XP. For other Windows OS, refer to the corresponding Windows User's Guide or online help.

NOTES:

- Check the Operating System(s) that are compatible with your printer. Please refer to the OS Compatibility section of Printer Specifications in your Printer User's Guide.
 - If you need to know the exact name of your printer, you can check the supplied CD-ROM.
-

Setting Up a Host Computer

- 1 Start Windows.
- 2 From the **Start** menu select **Printers and Faxes**.
- 3 Double-click **your printer driver icon**.
- 4 From the **Printer** menu, select **Sharing**.
- 5 Check the **Share this printer** box.
- 6 Fill in the **Shared Name** field, and then click **OK**.

Setting Up a Client Computer

- 1 Right-click the Windows **Start** button and select **Explorer**.
- 2 Open your network folder in the left column.
- 3 Click the shared name.
- 4 From the **Start** menu select **Printers and Faxes**.
- 5 Double-click **your printer driver icon**.
- 6 From the **Printer** menu, select **Properties**.
- 7 From the **Ports** tab, click **Add Port**.
- 8 Select **Local Port** and click **New Port**.
- 9 Fill in the **Enter a port name** field with the shared name.
- 10 Click **OK** and click **Close**.
- 11 Click **Apply** and click **OK**.

5 Using Smart Panel

Smart Panel is a program that monitors and informs you of the status of the printer, and allows you to customize the printer's settings. Smart Panel is installed automatically when you install the printer software.

NOTES:

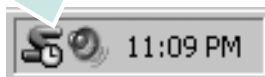
- To use this program, you need:
 - Windows 98 or higher To check for Operating System(s) that are compatible with your printer, refer to Printer Specifications in your Printer User's Guide.
 - Mac OS X 10.3 or higher
 - Linux. To check for Linux systems that are compatible with your printer, refer to Printer Specifications in your Printer User's Guide.
 - Internet Explorer version 5.0 or higher for flash animation in HTML Help.(Only for Windows)
- If you need to know the exact name of your printer, you can check the supplied CD-ROM.

Understanding Smart Panel

If an error occurs while printing, Smart Panel appears automatically, showing the error.

You can also launch Smart Panel manually. Double-click the Smart Panel icon on the Windows task bar (in Windows), or Notification Area (in Linux). You can also click it on the status bar (in Mac OS X).

Double-click this icon in Windows.



Click this icon in Mac OS X.



Click this icon in Linux.

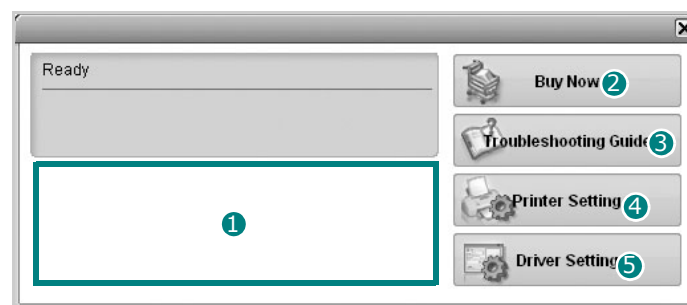


If you are a Windows user, from the **Start** menu, select **Programs** or **All Programs** → **your printer driver name** → **Smart Panel**.

NOTES:

- If you have already installed more than one Samsung printer, first select the printer model you want in order to use the corresponding Smart Panel. Right-click (in Windows or Linux) or click (in Mac OS X) the Smart Panel icon and select **your printer name**.
- The Smart Panel window and its contents shown in this Software User's Guide may differ depending on the printer or Operating System in use.

The Smart Panel program displays the current status of the printer, the level of toner remaining in the toner cartridge(s) and various other information. You can also change settings.



1 Toner Level

You can view the level of toner remaining in the toner cartridge(s). The printer and the number of toner cartridge(s) shown in the above window may differ depending on the printer in use. Any printers do not have this feature.

2 Buy Now

You can order replacement toner cartridge(s) online.

3 Troubleshooting Guide

You can view Help to solve problems.

4 Printer Setting

You can configure various printer settings in the Printer Settings Utility window. Any printers do not have this feature.

NOTE: If your printer is connected to a network and you are a Windows user, the **SyncThru Web Service** window appears instead of the Printer Settings Utility window.

5 Driver Setting (Only for Windows)

You can use the printer properties window, which allows you to access all of the printer options you need for using your printer. For details, See "Printer Settings" on page 13.

Opening the Troubleshooting Guide

Using the troubleshooting guide, you can view solutions for error status problems.

Right-click (in Windows or Linux) or click (in Mac OS X) the Smart Panel icon and select **Troubleshooting Guide**.

Using Printer Settings Utility

Using the Printer Settings Utility, you can configure and check print settings.

- 1 Right-click (in Windows or Linux) or click (in Mac OS X) the Smart Panel icon and select **Printer Setting**.
- 2 Change the settings.
- 3 To send the changes to the printer, click the **Apply** button.

NOTES: If your printer is connected to a network, the **SyncThru Web Service** window appears instead of the Printer Settings Utility window.

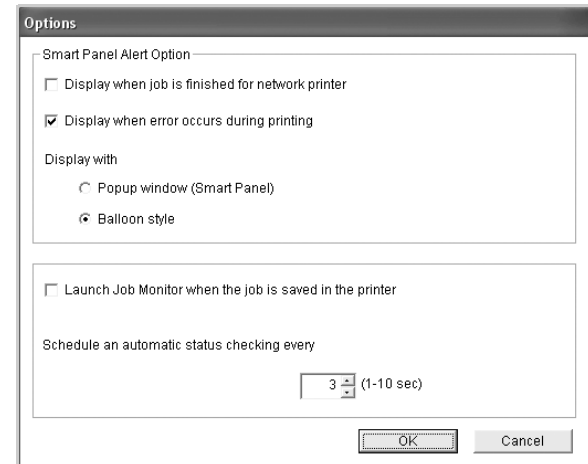
Using Onscreen Help File

For more information about **Printer Settings Utility**, click  .

Changing the Smart Panel Program Settings

Right-click (in Windows or Linux) or click (in Mac OS X) the Smart Panel icon and select **Options**.

The following window opens.



- **Display when job is finished for network printer:** The computer shows the Smart Panel popup window or balloon when your job is complete in Windows. *(Linux do not support network environments).*
- **Display when error occurs during printing:** The computer shows the Smart Panel popup window or balloon when an error occurs during printing.
- **Display with:** You can select how the computer shows you a message. If you select **Popup window (Smart Panel)**, the message appears in the Smart Panel popup window in Windows.
- **Launch Job Monitor when the job is saved in the printer:** If you store print jobs on the printer's hard disk, the computer opens the Job Monitor window in Windows. *(Only for Windows network-supported printers with built-in hard disks.)*
- **Schedule an automatic status checking every:** The computer updates the printer status regularly. Setting the value close to 1 second causes the computer to check the printer status more frequently, thereby allowing a faster response to any printer error.

6 Scanning

Scanning with your machine lets you turn pictures and text into digital files on your computer. Then you can fax or e-mail the files, display them on your web site or use them to create projects that you can print using Samsung SmarThru software or the WIA driver.

This chapter includes:

- **Scanning Using Samsung SmarThru**
- **Scanning Process with TWAIN-enabled Software**
- **Scanning Using the WIA Driver**

NOTES:

- *Check the Operating System(s) that are compatible with your printer. Please refer to the OS Compatibility section of Printer Specifications in your Printer User's Guide.*
 - *You can check your printer name in the supplied CD-ROM.*
 - *The maximum resolution that can be achieved depends upon various factors, including computer speed, available disk space, memory, the size of the image being scanned, and bit depth settings. Thus, depending on your system and what you are scanning, you may not be able to scan at certain resolutions, especially using enhanced dpi.*
-

Scanning Using Samsung SmarThru

Samsung SmarThru is the accompanying software for your machine. With SmarThru, scanning is the proverbial piece of cake.

NOTE: You can use SmarThru 4 in Windows 98 or higher.

Uninstalling Samsung SmarThru

NOTE: Before beginning uninstallation, ensure that all applications are closed on your computer.

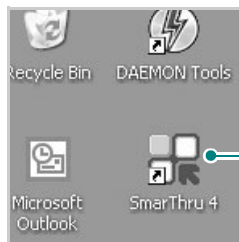
- 1** From the **Start** menu, select **Programs**.
- 2** Select **SmarThru 4**, and then select **Uninstall SmarThru 4**.
- 3** When your computer asks you to confirm, click **OK**.
- 4** Click **Finish**.

You may be prompted to restart your computer. In this case you must shut the computer down and then restart it before the changes will be saved.

Using Samsung SmarThru

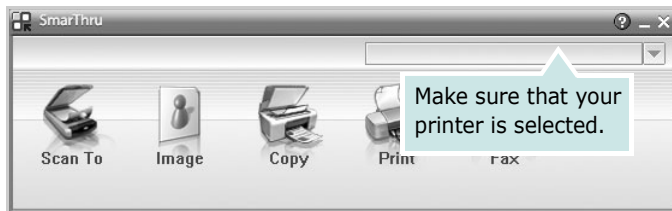
Follow these steps to start scanning using the SmarThru:

- 1 Make sure that your machine and computer are turned on and properly connected to each other.
- 2 Place your photograph or page on the document glass or ADF.
- 3 Once you have installed Samsung SmarThru, you will see the **SmarThru 4** icon on your desktop. Double-click the **SmarThru 4** icon.



Double-click this icon.

The SmarThru 4 window opens.



•Scan To

Allows you to scan an image and save it to an application or folder, email it, or publish it on a web site.

•Image

Allows you to edit an image you have saved as a graphic file and send it to a selected application or folder, email it, or publish it on a web site.

•Copy

Allows you to produce professional quality copies. You can make black and white or color copies of an image if your machine supports it, and customize the copy settings.

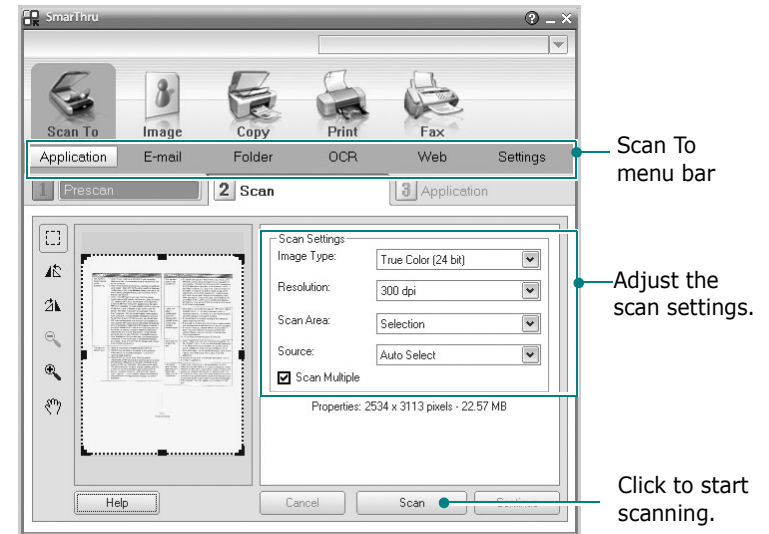
•Print

Allows you to print images you have saved. You can print images in black and white or color mode if your machine supports it.

•Fax

Allows you to fax images or files you have saved on your computer. This is available when your machine supports the fax feature.

- 4 Click **Scan To**. The **Scan To** menu bar appears on the SmarThru 4 window.



Scan To lets you use the following services:

•Application

Scanning an image and placing it in an image editor application, such as Paint or Adobe Photoshop.

•E-mail

Scanning an image and emailing it. Allows you to scan an image, preview it, and email it.

NOTE: To send an image by e-mail, you must have a mail client program, like Outlook Express, which has been set up with your e-mail account.

•Folder

Scanning an image and saving it to a folder. Allows you to scan an image, preview it, and save it to the folder of your choice.

•OCR

Scanning an image and performing text recognition. Allows you to scan an image, preview it, and send it to the OCR program for text recognition.

- Recommended Scan Option for OCR
- Resolution: 200 or 300 dpi
- Image Type: Grayscale or Black & White

•Web

Scanning an image, previewing it, and publishing it on a web site, using the specified file format for the image you want to publish.


•Settings

Customizing settings of **Scan To** basic functions. Allows you to customize settings for **Application**, **E-mail**, **OCR**, and **Web** functions.

- 5 Click the service icon according to your job.
- 6 SmarThru 4 opens for the selected service. Adjust the scan settings.
- 7 To start scanning, click **Scan**.

NOTE: If you want to cancel the scan job, click **Cancel**.

Using Onscreen Help File

For more information about SmarThru, click  at the top right corner of the window. The SmarThru Help window opens and allows you to view onscreen help supplied on the SmarThru program.

Scanning Process with TWAIN-enabled Software

If you want to scan documents using other software, you will need to use TWAIN-compliant software, such as Adobe PhotoDeluxe or Adobe Photoshop. The first time you scan with your machine, select it as your TWAIN source in the application you use.

The basic scanning process involves a number of steps:

- 1 Make sure that your machine and computer are turned on and properly connected to each other.
- 2 Load the document(s) face up into the ADF.
OR
Place a single document face down on the document glass.
- 3 Open an application, such as PhotoDeluxe or Photoshop.
- 4 Open the TWAIN window and set the scan options.
- 5 Scan and save your scanned image.

NOTE: You need to follow the program's instructions for acquiring an image. Please refer to the user's guide of the application.

Scanning Using the WIA Driver

Your machine also supports the Windows Image Acquisition (WIA) driver for scanning images. WIA is one of the standard components provided by Microsoft® Windows® XP/Vista and works with digital cameras and scanners. Unlike the TWAIN driver, the WIA driver allows you to scan and easily manipulate images without using additional software.

NOTE: The WIA driver works only on Windows XP/Vista with USB port.

Windows XP

- 1 Load the document(s) face up into the DADF (or ADF).
OR
Place a single document face down on the document glass.
- 2 From the **Start** menu on your desktop window, select **Control Panel**, and then **Scanners and Cameras**.
- 3 Double click **your scanner driver** icon. The Scanner and Camera Wizard launches.
- 4 Choose your scanning preferences and click **Preview** to see how your preferences affect the picture.
- 5 Click **Next**.
- 6 Enter a picture name, and select a file format and destination to save the picture.
- 7 Follow the on-screen instructions to edit the picture after it is copied to your computer.

NOTE: If you want to cancel the scan job, press the Cancel button on the Scanner and Camera Wizard.

Windows Vista

- 1 Load the document(s) face up into the DADF (or ADF).
OR
Place a single document face down on the document glass.
- 2 Click **Start** → **Control Panel** → **Hardware and Sound** → **Scanners and Cameras**.
- 3 Click on **Scan a document or picture**. Then **Windows Fax and Scan** application is opened automatically.

NOTE:

- To view scanners, user can click on **View Scanners and Cameras**.
- If there is not **Scan a document or picture**, open the MS paint program and click **From Scanner or Camera...** on **File** menu.

-
- 4 Click **New Scan** and then scan driver is opened.
 - 5 Choose your scanning preferences and click **Preview** to see your preferences affect the picture.
 - 6 Click **Scan**.

NOTE: If you want to cancel the scan job, press the Cancel button on the Scanner and Camera Wizard.

7 Using Your Printer in Linux

You can use your machine in a Linux environment.

This chapter includes:

- **Getting Started**
- **Installing the Unified Linux Driver**
- **Using the Unified Driver Configurator**
- **Configuring Printer Properties**
- **Printing a Document**
- **Scanning a Document**

Getting Started

The supplied CD-ROM provides you with Samsung's Unified Linux Driver package for using your machine with a Linux computer.

Samsung's Unified Linux Driver package contains printer and scanner drivers, providing the ability to print documents and scan images. The package also delivers powerful applications for configuring your machine and further processing of the scanned documents.

After the driver is installed on your Linux system, the driver package allows you to monitor a number of machine devices via fast ECP parallel ports and USB simultaneously.

The acquired documents can then be edited, printed on the same local or network machine devices, sent by e-mail, uploaded to an FTP site, or transferred to an external OCR system.

The Unified Linux Driver package is supplied with a smart and flexible installation program. You don't need to search for additional components that might be necessary for the Unified Linux Driver software: all required packages will be carried onto your system and installed automatically; this is possible on a wide set of the most popular Linux clones.


Installing the Unified Linux Driver

Installing the Unified Linux Driver

- 1 Make sure that you connect your machine to your computer. Turn both the computer and the machine on.
- 2 When the Administrator Login window appears, type in *root* in the Login field and enter the system password.

NOTE: You must log in as a super user (*root*) to install the printer software. If you are not a super user, ask your system administrator.

- 3 Insert the printer software CD-ROM. The CD-ROM will automatically run.

If the CD-ROM does not automatically run, click the  icon at the bottom of the desktop. When the Terminal screen appears, type in:

If the CD-ROM is secondary master and the location to mount is `/mnt/cdrom`,

```
[root@localhost root]#mount -t iso9660 /dev/hdc /mnt/cdrom
```

```
[root@localhost root]#cd /mnt/cdrom/Linux
```

```
[root@localhost root]#./install.sh
```

NOTE: The installation program runs automatically if you have an autorun software package installed and configured.

- 4 When the welcome screen appears, click **Next**.



- 5 When the installation is complete, click **Finish**.




The installation program has added the Unified Driver Configurator desktop icon and Samsung Unified Driver group to the system menu for your convenience. If you have any difficulties, consult the onscreen help that is available through your system menu or can otherwise be called from the driver package windows applications, such as **Unified Driver Configurator** or **Image Manager**.

Uninstalling the Unified Linux Driver

- 1 When the Administrator Login window appears, type in *root* in the Login field and enter the system password.

NOTE: You must log in as a super user (*root*) to install the printer software. If you are not a super user, ask your system administrator.

- 2 Insert the printer software CD-ROM. The CD-ROM will automatically run.

If the CD-ROM does not automatically run, click the  icon at the bottom of the desktop. When the Terminal screen appears, type in:

If the CD-ROM is secondary master and the location to mount is `/mnt/cdrom`,

```
[root@localhost root]# mount -t iso9660 /dev/hdc /mnt/cdrom
```

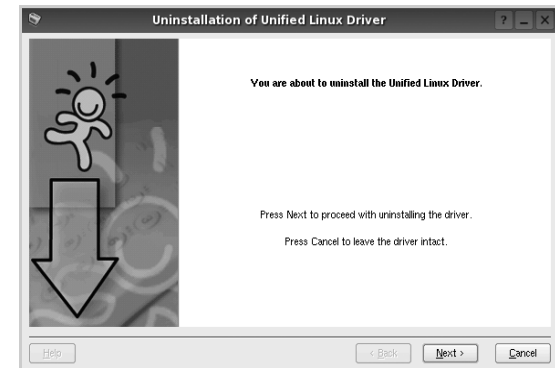
```
[root@localhost root]# cd /mnt/cdrom/Linux
```

```
[root@localhost root]# ./uninstall.sh
```

NOTE: The installation program runs automatically if you have an autorun software package installed and configured.

- 3 Click **Uninstall**.

- 4 Click **Next**.



- 5 Click **Finish**.

Using the Unified Driver Configurator

Unified Linux Driver Configurator is a tool primarily intended for configuring Printer or MFP devices. Since an MFP device combines the printer and scanner, the Unified Linux Driver Configurator provides options logically grouped for printer and scanner functions. There is also a special MFP port option responsible for the regulation of access to an MFP printer and scanner via a single I/O channel.

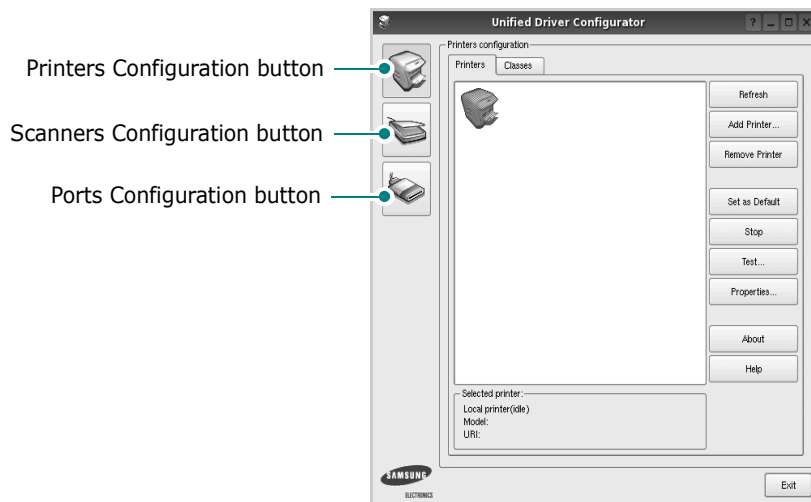
After installing the Unified Linux driver, the Unified Linux Driver Configurator icon will automatically be created on your desktop.

Opening the Unified Driver Configurator

- 1 Double-click **Unified Driver Configurator** on the desktop.

You can also click the Startup Menu icon and select **Samsung Unified Driver** and then **Samsung Unified Driver Configurator**.

- 2 Press each button on the Modules pane to switch to the corresponding configuration window.



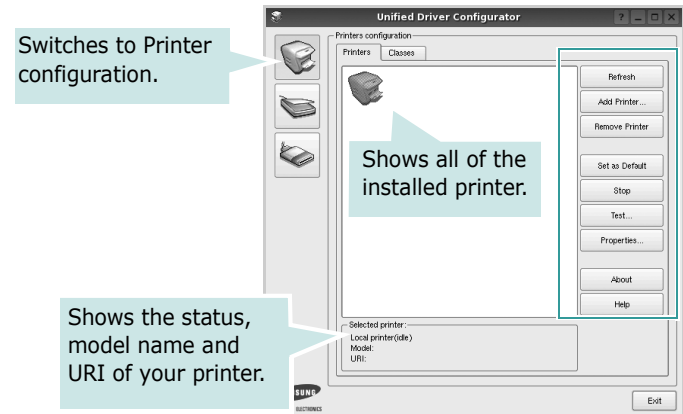
- 3 You can use the onscreen help by clicking **Help**. After changing the configurations, click **Exit** to close the Unified Driver Configurator.

Printers Configuration

Printers configuration has the two tabs: **Printers** and **Classes**.

Printers Tab

You can see the current system's printer configuration by clicking on the printer icon button on the left side of the Unified Driver Configurator window.

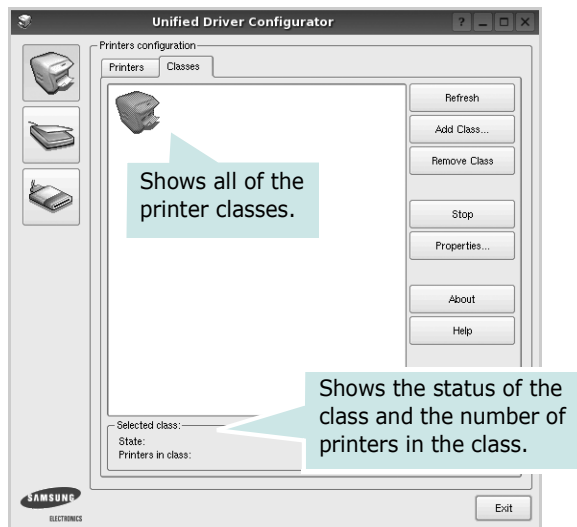


You can use the following printer control buttons:

- **Refresh:** renews the available printers list.
- **Add Printer:** allows you to add a new printer.
- **Remove Printer:** removes the selected printer.
- **Set as Default:** sets the current printer as a default printer.
- **Stop/Start:** stops/starts the printer.
- **Test:** allows you to print a test page to check if the machine is working properly.
- **Properties:** allows you to view and change the printer properties. For details, see page 34.

Classes Tab

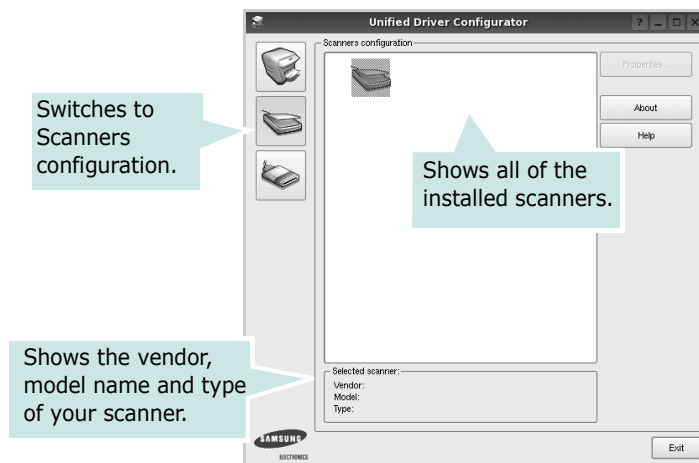
The Classes tab shows a list of available printer classes.



- **Refresh** : Renews the classes list.
- **Add Class...** : Allows you to add a new printer class.
- **Remove Class** : Removes the selected printer class.

Scanners Configuration

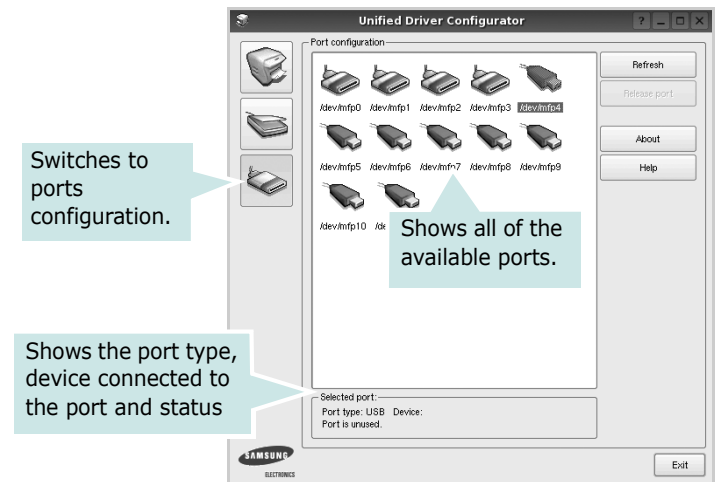
In this window, you can monitor the activity of scanner devices, view a list of installed Samsung MFP devices, change device properties, and scan images.



- **Properties...** : Allows you to change the scan properties and scan a document. See page 35.

Ports Configuration

In this window, you can view the list of available ports, check the status of each port and release a port that is stalled in busy state when its owner is terminated for any reason.



- **Refresh** : Renews the available ports list.
- **Release port** : Releases the selected port.

Sharing Ports Between Printers and Scanners

Your machine may be connected to a host computer via the parallel port or USB port. Since the MFP device contains more than one device (printer and scanner), it is necessary to organize proper access of "consumer" applications to these devices via the single I/O port.

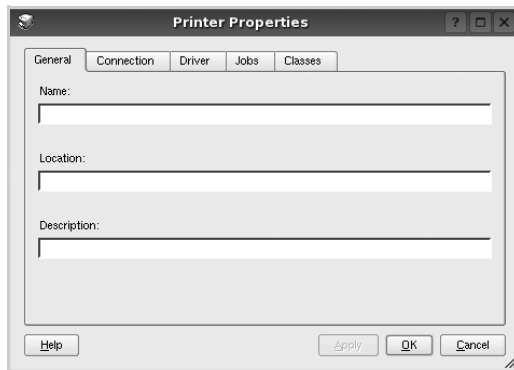
The Samsung Unified Linux Driver package provides an appropriate port sharing mechanism that is used by Samsung printer and scanner drivers. The drivers address their devices via so-called MFP ports. The current status of any MFP port can be viewed via the Ports Configuration. The port sharing prevents you from accessing one functional block of the MFP device, while another block is in use.

When you install a new MFP device onto your system, it is strongly recommended you do this with the assistance of an Unified Driver Configurator. In this case you will be asked to choose I/O port for the new device. This choice will provide the most suitable configuration for MFP's functionality. For MFP scanners I/O ports are being chosen by scanner drivers automatically, so proper settings are applied by default.

Configuring Printer Properties

Using the properties window provided by the Printers configuration, you can change the various properties for your machine as a printer.

- 1 Open the Unified Driver Configurator.
If necessary, switch to Printers configuration.
- 2 Select your machine on the available printers list and click **Properties**.
- 3 The Printer Properties window opens.



The following five tabs display at the top of the window:

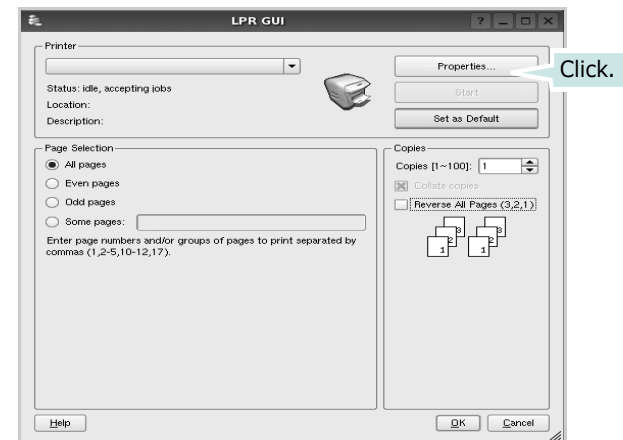
- **General:** allows you to change the printer name, location and description. The name entered in this tab displays on the printer list in Printers configuration.
 - **Connection:** allows you to view or select another port. If you change the printer port from USB to parallel or vice versa while in use, you must re-configure the printer port in this tab.
 - **Driver:** allows you to view or select another printer driver. By clicking **Options**, you can set the default device options.
 - **Jobs:** shows the list of print jobs. Click **Cancel job** to cancel the selected job and select the **Show completed jobs** check box to see previous jobs on the job list.
 - **Classes:** shows the class that your printer is in. Click **Add to Class** to add your printer to a specific class or click **Remove from Class** to remove the printer from the selected class.
- 4 Click **OK** to apply the changes and close the Printer Properties Window.

Printing a Document

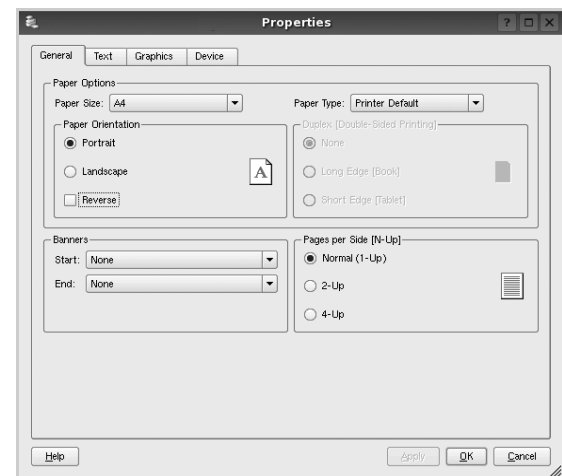
Printing from Applications

There are a lot of Linux applications that you are allowed to print from using Common UNIX Printing System (CUPS). You can print on your machine from any such application.

- 1 From the application you are using, select **Print** from the **File** menu.
- 2 Select **Print** directly using **lpr**.
- 3 In the LPR GUI window, select the model name of your machine from the Printer list and click **Properties**.



- 4 Change the printer and print job properties.



The following four tabs display at the top of the window.

- General** - allows you to change the paper size, the paper type, and the orientation of the documents, enables the duplex feature, adds start and end banners, and changes the number of pages per sheet.
- Text** - allows you to specify the page margins and set the text options, such as spacing or columns.
- Graphics** - allows you to set image options that are used when printing images/files, such as color options, image size, or image position.
- Device**: allows you to set the print resolution, paper source, and destination.

- 5 Click **Apply** to apply the changes and close the Properties window.
- 6 Click **OK** in the LPR GUI window to start printing.
- 7 The Printing window appears, allowing you to monitor the status of your print job.

To abort the current job, click **Cancel**.

Printing Files


You can print many different types of files on the Samsung machine device using the standard CUPS way - directly from the command line interface. The CUPS lpr utility allows you do that. But the drivers package replaces the standard lpr tool by a much more user-friendly LPR GUI program.

To print any document file:

- 1 Type `lpr <file_name>` from the Linux shell command line and press **Enter**. The LPR GUI window appears.
When you type only `lpr` and press **Enter**, the Select file(s) to print window appears first. Just select any files you want to print and click **Open**.
- 2 In the LPR GUI window, select your printer from the list, and change the printer and print job properties.
For details about the properties window, see page 34.
- 3 Click **OK** to start printing.

Scanning a Document

You can scan a document using the Unified Driver Configurator window.

- 1 Double-click the Unified Driver Configurator on your desktop.
- 2 Click the  button to switch to Scanners Configuration.
- 3 Select the scanner on the list.

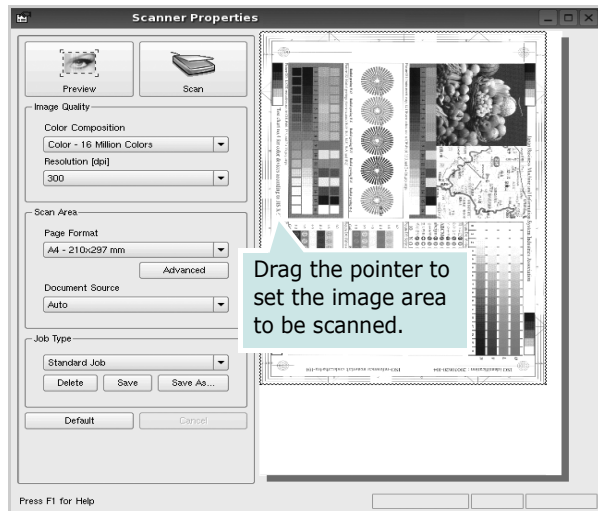


When you have only one MFP device and it is connected to the computer and turned on, your scanner appears on the list and is automatically selected.

If you have two or more scanners attached to your computer, you can select any scanner to work at any time. For example, while acquisition is in progress on the first scanner, you may select the second scanner, set the device options and start the image acquisition simultaneously.

- 4 Click **Properties**.
- 5 Load the document to be scanned face up into the ADF (Automatic Document Feeder) or face down on the document glass.
- 6 Click **Preview** in the Scanner Properties window.

The document is scanned and the image preview appears in the Preview Pane.



- 7 Change the scan options in the Image Quality and Scan Area sections.

- Image Quality:** allows you to select the color composition and the scan resolution for the image.

- Scan Area:** allows you to select the page size. The **Advanced** button enables you to set the page size manually.

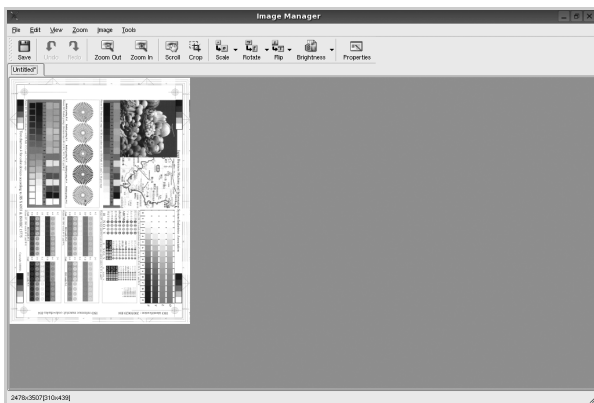
If you want to use one of the preset scan option settings, select from the Job Type drop-down list. For details about the preset Job Type settings, see page 36.

You can restore the default setting for the scan options by clicking **Default**.

- 8 When you have finished, click **Scan** to start scanning.

The status bar appears on the bottom left of the window to show you the progress of the scan. To cancel scanning, click **Cancel**.

- 9 The scanned image appears in the new Image Manager tab.



If you want to edit the scanned image, use the toolbar. For further details about editing an image, see page 36.

- 10 When you are finished, click **Save** on the toolbar.
- 11 Select the file directory where you want to save the image and enter the file name.
- 12 Click **Save**.

Adding Job Type Settings

You can save your scan option settings to retrieve for a later scanning.

To save a new Job Type setting:

- 1 Change the options from the Scanner Properties window.
- 2 Click **Save As**.
- 3 Enter the name for your setting.
- 4 Click **OK**.

Your setting is added to the Saved Settings drop-down list.

To save a Job Type setting for the next scan job:

- 1 Select the setting you want to use from the Job Type drop-down list.
- 2 The next time you open the Scanner Properties window, the saved setting is automatically selected for the scan job.

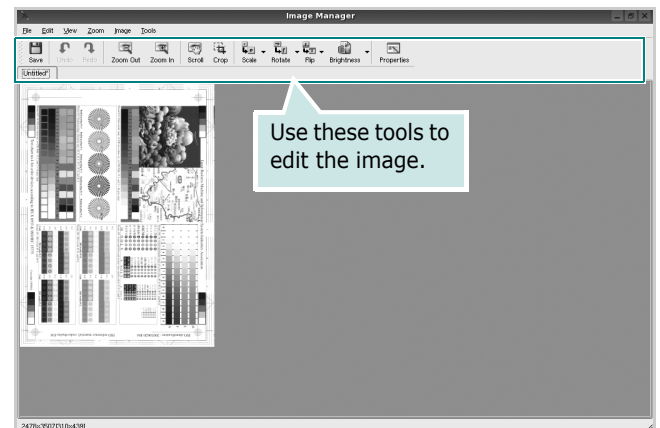
To delete a Job Type setting:

- 1 Select the setting you want to delete from the Job Type drop-down list.
- 2 Click **Delete**.













The setting is deleted from the list

Using the Image Manager

The Image Manager application provides you with menu commands and tools to edit your scanned image.



You can use the following tools to edit the image:

Tools	Function
 Save	Saves the image.
 Undo	Cancels your last action.
 Redo	Restores the action you canceled.
 Scroll	Allows you to scroll through the image.
 Crop	Crops the selected image area.
 Zoom Out	Zooms the image out.
 Zoom In	Zooms the image in.
 Scale	Allows you to scale the image size; you can enter the size manually, or set the rate to scale proportionally, vertically, or horizontally.
 Rotate	Allows you to rotate the image; you can select the number of degrees from the drop-down list.
 Flip	Allows you to flip the image vertically or horizontally.
 Effect	Allows you to adjust the brightness or contrast of the image, or to invert the image.
 Properties	Shows the properties of the image.

For further details about the Image Manager application, refer to the onscreen help.

8 Using Your Printer with a Macintosh

Your printer supports Macintosh systems with a built-in USB interface or 10/100 Base-TX network interface card. When you print a file from a Macintosh computer, you can use the CUPS driver by installing the PPD file.

NOTE: *Some printers do not support a network interface. Make sure that your printer supports a network interface by referring to Printer Specifications in your Printer User's Guide.*

This chapter includes:

- **Installing Software for Macintosh**
- **Setting Up the Printer**
- **Printing**
- **Scanning**

Installing Software for Macintosh

The CD-ROM that came with your printer provides you with the PPD file that allows you to use the CUPS driver or Apple LaserWriter driver (*only available when you use a printer which supports the PostScript driver*), for printing on a Macintosh computer.

Also, it provides you with the Twain driver for scanning on a Macintosh computer.

Install the Printer driver

- 1** Make sure that you connect your printer to the computer. Turn on your computer and printer.
- 2** Insert the CD-ROM which came with your printer into the CD-ROM drive.
- 3** Double-click **CD-ROM icon** that appears on your Macintosh desktop.
- 4** Double-click the **MAC_Installer** folder.
- 5** Double-click the **MAC_Printer** folder.
- 6** Double-click the **Samsung SPLC Installer** icon.
- 7** Enter the password and click **OK**.
- 8** The Samsung SPL Installer window opens. Click **Continue** and then click **Continue**.
- 9** Select **Easy Install** and click **Install**.
- 10** After the installation is finished, click **Quit**.

Uninstalling the Printer driver

Uninstall is required if you are upgrading the software, or if installation fails.

- 1** Insert the CD-ROM which came with your printer into the CD-ROM drive.
- 2** Double-click **CD-ROM icon** that appears on your Macintosh desktop.
- 3** Double-click the **MAC_Installer** folder.
- 4** Double-click the **MAC_Printer** folder.
- 5** Double-click the **Samsung SPLC Installer** icon.
- 6** Enter the password and click **OK**.
- 7** The Samsung SPL Installer window opens. Click **Continue** and then click **Continue**.
- 8** Select **Uninstall** and then click **Uninstall**.
- 9** When the uninstallation is done, click **Quit**.

Install the Scan driver

- 1 Make sure that you connect your printer to the computer. Turn on your computer and printer.
- 2 Insert the CD-ROM which came with your printer into the CD-ROM drive.
- 3 Double-click **CD-ROM icon** that appears on your Macintosh desktop.
- 4 Double-click the **MAC_Installer** folder.
- 5 Double-click the **MAC_Twain** folder.
- 6 Double-click the **Samsung ScanThru Installer** icon.
- 7 Enter the password and click **OK**.
- 8 Click **Continue**.
- 9 Click **Install**.
- 10 Click **Continue**.
- 11 After the installation is finished, click **Quit**.

Uninstalling the Scan driver

- 1 Insert the CD-ROM which came with your printer into the CD-ROM drive.
- 2 Double-click **CD-ROM icon** that appears on your Macintosh desktop.
- 3 Double-click the **MAC_Installer** folder.
- 4 Double-click the **MAC_Twain** folder.
- 5 Double-click the **Samsung ScanThru Installer** icon.
- 6 Enter the password and click **OK**.
- 7 Click **Continue**.
- 8 Select **Uninstall** from the Installation Type and then Click **Uninstall**.
- 9 Click **Continue**.
- 10 When the uninstallation is done, click **Quit**.

Setting Up the Printer

Set up for your printer will be different depending on which cable you use to connect the printer to your computer—the network cable or the USB cable.

For a Network-connected Macintosh

NOTE: *Some printers do not support a network interface. Before connecting your printer, make sure that your printer supports a network interface by referring to Printer Specifications in your Printer User's Guide.*

- 1 Follow the instructions on “Installing Software for Macintosh” on page 38 to install the PPD and Filter files on your computer.
- 2 Open **Print Setup Utility** from the **Utilities** folder.
- 3 Click **Add** on the **Printer List**.
- 4 Select the **IP Printing** tab.
- 5 Select **Socket/HP Jet Direct** in **Printer Type**.
WHEN PRINTING A DOCUMENT CONTAINING MANY PAGES, PRINTING PERFORMANCE MAY BE ENHANCED BY CHOOSING SOCKET FOR PRINTER TYPE OPTION.
- 6 Enter the printer's IP address in the **Printer Address** field.
- 7 Enter the queue name in the **Queue Name** field. If you cannot determine the queue name for your printer server, try using the default queue first.
- 8 Select **Samsung** in **Printer Model** and your printer in **Model Name**.
- 9 Click **Add**.
- 10 Your printer's IP address appears on the **Printer List**, and is set as the default printer.

For a USB-connected Macintosh

- 1 Follow the instructions on “Installing Software for Macintosh” on page 38 to install the PPD and Filter files on your computer.
- 2 Open **Print Setup Utility** from the **Utilities** folder.
- 3 Click **Add** on the **Printer List**.
- 4 Select the **USB** tab.
- 5 Select **Samsung** in **Printer Model** and your printer in **Model Name**.
- 6 Click **Add**.
Your printer appears on the **Printer List**, and is set as the default printer.

Printing

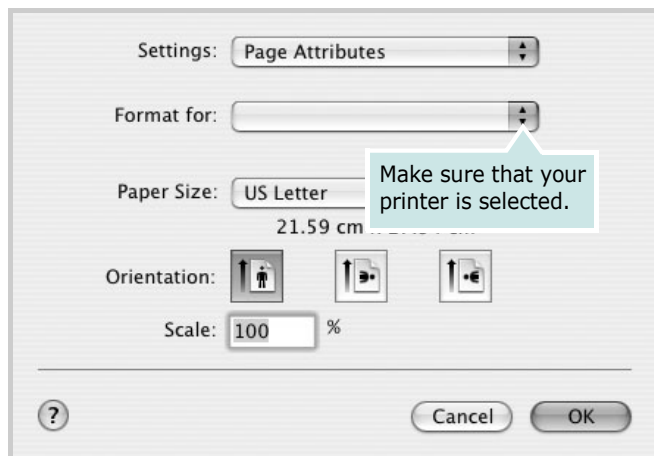
NOTES:

- The Macintosh printer's properties window that appears in this User's Guide may differ depending on the printer in use. However the composition of the printer properties window is similar.
- *You can check your printer name in the supplied CD-ROM.*

Printing a Document

When you print with a Macintosh, you need to check the printer software setting in each application you use. Follow these steps to print from a Macintosh.

- 1 Open a Macintosh application and select the file you want to print.
- 2 Open the **File** menu and click **Page Setup (Document Setup** in some applications).
- 3 Choose your paper size, orientation, scaling, and other options and click **OK**.



▲ Mac OS 10.3

- 4 Open the **File** menu and click **Print**.
- 5 Choose the number of copies you want and indicate which pages you want to print.
- 6 Click **Print** when you finish setting the options.

Changing Printer Settings

You can use advanced printing features when using your printer.

From your Macintosh application, select **Print** from the **File** menu. The printer name which appears in the printer properties window may differ depending on the printer in use. Except for the name, the composition of the printer properties window is similar.

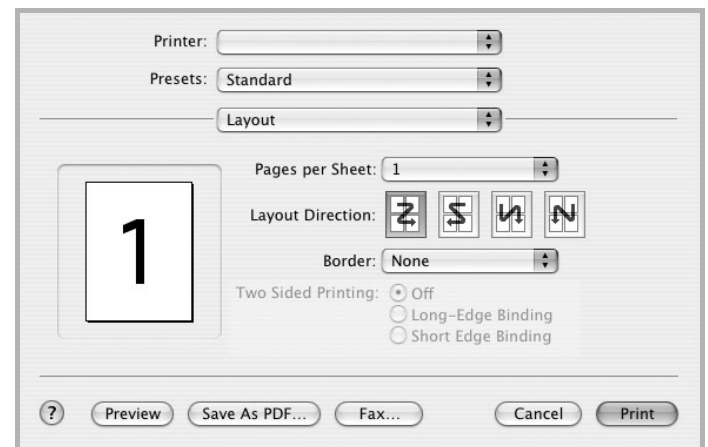
NOTES:

The setting options may differ depending on printers and Macintosh OS version.

Layout Setting

The **Layout** tab provides options to adjust how the document appears on the printed page. You can print multiple pages on one sheet of paper.

Select **Layout** from the **Presets** drop-down list to access the following features. For details, see "Printing Multiple Pages on One Sheet of Paper" on the next column.



▲ Mac OS 10.3

Printer Features Setting

The **Printer Features** tab provides options for selecting the paper type and adjusting print quality.

Select **Printer Features** from the **Presets** drop-down list to access the following features:



▲ Mac OS 10.3

Paper Type

Set **Type** to correspond to the paper loaded in the tray from which you want to print. This will let you get the best quality printout. If you load a different type of print material, select the corresponding paper type.

Resolution(Quality)

The Resolution options you can select may vary depending on your printer model. You can select the printing resolution. The higher the setting, the sharper the clarity of printed characters and graphics. The higher setting also may increase the time it takes to print a document.

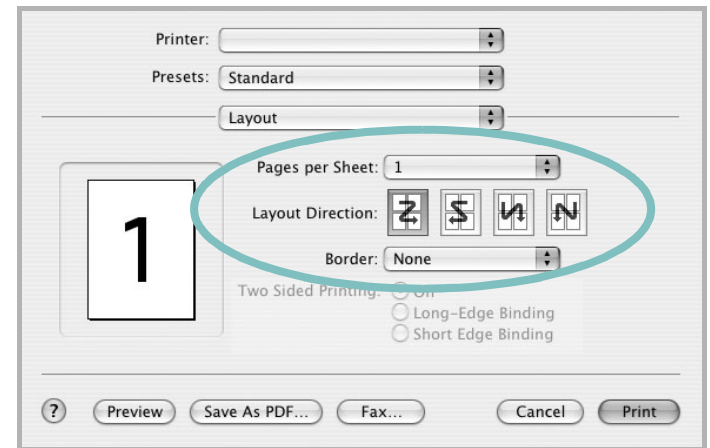
Color Mode

You can set the color options. Setting to **Color** typically produces the best possible print quality for color documents. If you want to print a color document in grayscale, select **Grayscale**.

Printing Multiple Pages on One Sheet of Paper

You can print more than one page on a single sheet of paper. This feature provides a cost-effective way to print draft pages.

- 1 From your Macintosh application, select **Print** from the **File** menu.
- 2 Select **Layout**.



▲ Mac OS 10.3

- 3 Select the number of pages you want to print on one sheet of paper on the **Pages per Sheet** drop-down list.
- 4 Select the page order from the **Layout Direction** option. To print a border around each page on the sheet, select the option you want from the **Border** drop-down list.
- 5 Click **Print**, and the printer prints the selected number of pages on one side of each page.

Scanning

If you want to scan documents using other software, you will need to use TWAIN-compliant software, such as Adobe PhotoDeluxe or Adobe Photoshop. The first time you scan with your machine, select it as your TWAIN source in the application you use.

The basic scanning process involves a number of steps:

1. Load the document(s) face up into the DADF (or ADF).
OR
Place a single document face down on the documentglass.
2. Open an application, such as PhotoDeluxe or Photoshop.
3. Open the TWAIN window and set the scan options.
4. Scan and save your scanned image.

NOTE: You need to follow the program's instructions for acquiring an image. Please refer to the User's Guide of the application.

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